

**EXHIBIT 2**  
**[FILED UNDER SEAL]**



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<p>Page 3</p> <p>1 APPEARANCES (continued)</p> <p>2 FOR THE DEFENDANT GOOGLE LLC:</p> <p>3 Ayesha Najam</p> <p>4 Elisa Wulfsberg (via Zoom)</p> <p>5 GIBBS &amp; BRUNS LLP</p> <p>6 1100 Louisiana</p> <p>7 Suite 5300</p> <p>8 Houston, Texas 77002</p> <p>9 anajam@gibbsbruns.com</p> <p>10 - and -</p> <p>11 Robert McCallum (via Zoom)</p> <p>12 Veronica Bosco (via Zoom)</p> <p>13 FRESHFIELDS BRUCKHAUS DERINGER US LLP</p> <p>14 175 Greenwich Street</p> <p>15 51st Floor</p> <p>16 3 World Trade Center</p> <p>17 New York, New York 10007</p> <p>18 rob.mccallum@freshfields.com</p> <p>19 ALSO PRESENT:</p> <p>20 Jonathan Jaffe (via Zoom)</p> <p>21 Anu Reddy (via Zoom)</p> <p>22 Luis Acevedo, Video Technician</p>	<p>Page 5</p> <p>1 PROCEEDINGS</p> <p>2 THE VIDEOGRAPHER: We're on the record</p> <p>3 for the deposition of Jacob Hochstetler. The time is</p> <p>4 9:10 a.m. on December 16, 2024.</p> <p>5 Will counsel state their appearances</p> <p>6 for the record.</p> <p>7 MS. NAJAM: Ayesha Najam from Gibbs &amp;</p> <p>8 Bruns on behalf of Google.</p> <p>9 MR. HILLEGAS: Peter Hillegas of</p> <p>10 Norton Rose Fulbright on behalf of State of Texas.</p> <p>11 With me is co-counsel Ethan Glenn, also of Norton</p> <p>12 Rose Fulbright, and Jonathan Wilkerson of The Lanier</p> <p>13 Law Firm.</p> <p>14 JACOB HOCHSTETLER,</p> <p>15 having been first duly sworn, testified as follows:</p> <p>16 EXAMINATION</p> <p>17 BY MS. NAJAM:</p> <p>18 Q. Dr. Hochstetler, we met off the record,</p> <p>19 but, again, my name is Ayesha Najam. No one</p> <p>20 pronounces it right. You can call me "counsel" if</p> <p>21 you'd like. And I represent Google in this matter.</p> <p>22 You have actually already been deposed in</p> <p>23 this matter; is that right?</p> <p>24 A. That's correct.</p> <p>25 Q. Was that deposition in October?</p>

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<p style="text-align: right;">Page 6</p> <p>1 October 1st ring a bell?</p> <p>2 A. Yes. The semester has been a blur, but</p> <p>3 that sounds about right.</p> <p>4 Q. All right. Well, since you have so</p> <p>5 recently been deposed, I'm not going to go through</p> <p>6 the usual list of instructions, but a couple of them</p> <p>7 I did want to touch on again.</p> <p>8 First, as a reminder, that you please wait</p> <p>9 for me to finish my question before you start your</p> <p>10 answer. And I will, of course, try to do the same</p> <p>11 with you.</p> <p>12 The second is I just wanted to get our</p> <p>13 understanding on the record that if I ask you a</p> <p>14 question and, for whatever reason, you didn't</p> <p>15 understand it, didn't hear it, can we agree that</p> <p>16 you'll ask me to repeat the question or rephrase it</p> <p>17 in that event?</p> <p>18 A. Yes.</p> <p>19 Q. Okay. And if I ask you a question and you</p> <p>20 answer it just as I phrased it, can we safely assume</p> <p>21 you understood my question?</p> <p>22 A. Yes.</p> <p>23 Q. And the final reminder is, as you will</p> <p>24 recall from last time, we will be taking breaks.</p> <p>25 The one thing I ask is there not be a pending</p>	<p style="text-align: right;">Page 8</p> <p>1 (Exhibit 1 marked.)</p> <p>2 A. (Reviewed document.) Yes, that's correct.</p> <p>3 Q. All right. So page 3, paragraph 2 under</p> <p>4 the subtitle Assignment, without reading it into the</p> <p>5 record, I just want you to confirm that this is an</p> <p>6 accurate summary of what you were originally asked</p> <p>7 to do as it relates to chat logs.</p> <p>8 A. Yes, this was my original assignment.</p> <p>9 Q. Okay. And we'll get to the other stuff</p> <p>10 later. I wanted to clarify one thing.</p> <p>11 You testified in your last deposition in</p> <p>12 this case that you were engaged solely by the State</p> <p>13 of Texas.</p> <p>14 Is that still -- is that still true?</p> <p>15 A. That is correct.</p> <p>16 Q. And we're obviously going to get into a</p> <p>17 lot of weeds later, but big picture, am I right that</p> <p>18 part of your engagement regarding chat logs was to</p> <p>19 analyze something that you call in your report the</p> <p>20 log dataset?</p> <p>21 A. Yes, this assignment revolved around the</p> <p>22 log dataset.</p> <p>23 Q. And just to get our definitions together,</p> <p>24 the log dataset as we're going to use that term</p> <p>25 today, those are logs of Google Chat metadata that</p>
<p style="text-align: right;">Page 7</p> <p>1 question at the time, but if at any other point,</p> <p>2 please let me know and we will definitely take a</p> <p>3 short break.</p> <p>4 A. Sounds great.</p> <p>5 Q. All right. Now I know you have done some</p> <p>6 work in this case on more than one subject. But you</p> <p>7 understand today's deposition has to do with your</p> <p>8 opinions having to do with Google Chat; is that</p> <p>9 right?</p> <p>10 A. Specifically the chat logs.</p> <p>11 Q. Okay. Thanks for the clarification.</p> <p>12 Including the reports and declaration that</p> <p>13 you have provided, whether on chat logs or</p> <p>14 otherwise, am I right that, grand total, you have</p> <p>15 provided four reports and one declaration?</p> <p>16 A. Yes.</p> <p>17 Q. And in terms of which of those relate to</p> <p>18 chat logs, it's an October report, a December</p> <p>19 report, and a December declaration; am I right?</p> <p>20 A. That's correct.</p> <p>21 Q. So I'm first going to hand you what I have</p> <p>22 marked as Exhibit 1 to your deposition.</p> <p>23 Can you just confirm for me that that's a</p> <p>24 copy of your October 2024 report relating to chat</p> <p>25 logs?</p>	<p style="text-align: right;">Page 9</p> <p>1 Google produced for five particular employees</p> <p>2 covering a 68-day period, true?</p> <p>3 MR. HILLEGAS: Objection; form.</p> <p>4 A. That is correct.</p> <p>5 Q. And in your report, you refer to something</p> <p>6 called a log period.</p> <p>7 Is it that 68 days?</p> <p>8 A. Yes, it is.</p> <p>9 Q. And just to be clear, that specific period</p> <p>10 is December 9, 2022, to February 14, 2023; is that</p> <p>11 right?</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 A. That is correct.</p> <p>14 Q. Okay. Am I right that you have three</p> <p>15 degrees in computer science?</p> <p>16 A. That is correct.</p> <p>17 Q. That's a bachelor's, a master's, and a</p> <p>18 Ph.D.?</p> <p>19 A. Correct.</p> <p>20 Q. And I'm not going to go through all these</p> <p>21 in detail, but am I right that you also have several</p> <p>22 certifications in the field of computer science?</p> <p>23 A. Yes.</p> <p>24 Q. I take it you consider yourself to be an</p> <p>25 expert in that field?</p>

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<p style="text-align: right;">Page 10</p> <p>1 A. I am.</p> <p>2 Q. And prior to this case, am I right that</p> <p>3 all of the times that you have been engaged by a</p> <p>4 party as an expert, that they all related to</p> <p>5 computer science?</p> <p>6 A. That's correct.</p> <p>7 Q. And am I right that all the classes that</p> <p>8 you have taught have also been about computer</p> <p>9 science?</p> <p>10 A. In a broad sense, yes. I have also taught</p> <p>11 several information technology classes, but</p> <p>12 depending upon a school's curriculum, those could</p> <p>13 fall in different places. But things like networks</p> <p>14 and databases aren't what would be considered core</p> <p>15 computer science classes; they would be more aligned</p> <p>16 with, like, IT.</p> <p>17 Q. Okay. And to the average person when they</p> <p>18 hear "IT," are we at least still talking about the</p> <p>19 world of computing?</p> <p>20 A. Yes. Yes. Information technology.</p> <p>21 Q. And how about the research that you have</p> <p>22 done, has all your research experience also all</p> <p>23 related to information technology?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. I would say that would be specifically</p>	<p style="text-align: right;">Page 12</p> <p>1 confidentiality orders or security clearances.</p> <p>2 A. I'm going to follow my counsel's advice.</p> <p>3 I cannot disclose tools, techniques, or procedures.</p> <p>4 Q. Okay. And I didn't ask you to disclose</p> <p>5 what you did for anybody, including the government.</p> <p>6 It was a yes-or-no question. I'm going to ask it</p> <p>7 again.</p> <p>8 For any of that work, at any point did</p> <p>9 your job include determining -- sorry, analyzing the</p> <p>10 preservation or destruction of data?</p> <p>11 MR. HILLEGAS: Same caution to the</p> <p>12 witness that if you feel that a yes-or-no answer</p> <p>13 covers information covered by a security clearance or</p> <p>14 confidentiality, you are permitted to not answer.</p> <p>15 MS. NAJAM: Just to save time, you can</p> <p>16 just say "same instruction." This may happen again.</p> <p>17 Q. Can you answer the question? I can wait</p> <p>18 for you to read the realtime.</p> <p>19 A. I don't feel comfortable answering that</p> <p>20 question.</p> <p>21 Q. Okay. So I'm going to ask the same</p> <p>22 question for the work you described that was not</p> <p>23 computer science-related for the private military</p> <p>24 experience.</p> <p>25 Are you able to tell me, yes or no,</p>
<p style="text-align: right;">Page 11</p> <p>1 computer science but under the big umbrella of</p> <p>2 information technology.</p> <p>3 Q. Got it.</p> <p>4 And then same question about work history:</p> <p>5 Has all of it related to either information</p> <p>6 technology or computer science?</p> <p>7 MR. HILLEGAS: Objection; form.</p> <p>8 A. I have had other jobs that did not relate</p> <p>9 to computer science.</p> <p>10 Q. What were they?</p> <p>11 A. I was an interrogator in the Army. I also</p> <p>12 performed counterintelligence duties as a</p> <p>13 counterintelligence special agent.</p> <p>14 Later on during the early part of the</p> <p>15 Global War on Terror, I was in Iraq with a private</p> <p>16 military company doing security operations.</p> <p>17 Q. In any of -- well, let's take those one by</p> <p>18 one.</p> <p>19 For the work that you did for the -- for</p> <p>20 government-related counterintelligence, did any of</p> <p>21 that involve analysis of preservation or deletion of</p> <p>22 data?</p> <p>23 MR. HILLEGAS: Objection; form.</p> <p>24 I'm going to caution the witness not</p> <p>25 to disclose any information covered by</p>	<p style="text-align: right;">Page 13</p> <p>1 whether any of that entailed determining the</p> <p>2 destruction or preservation of data?</p> <p>3 A. I am able.</p> <p>4 MR. HILLEGAS: I have the same</p> <p>5 objections on there so...</p> <p>6 Q. What's the answer?</p> <p>7 A. The answer is "no" for that company.</p> <p>8 Q. Okay. So sitting here today -- actually</p> <p>9 let's -- sitting here today, can you point us to</p> <p>10 any -- can you state for us any experience you have</p> <p>11 had, whether in the academic field or working wise,</p> <p>12 with analyzing the preservation or destruction of</p> <p>13 data?</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 A. Yes.</p> <p>16 Q. What's that?</p> <p>17 A. I worked at Los Alamos National Labs.</p> <p>18 This was regarding their supercomputing system</p> <p>19 Trinity, and I worked on a project for log analysis</p> <p>20 and anomaly detection.</p> <p>21 Most of the jobs that ran on the</p> <p>22 supercomputer -- one of the reasons it was named</p> <p>23 Trinity was for the nuclear simulations.</p> <p>24 The preservation of logs for these systems</p> <p>25 was fairly detailed and intricate, not only from a</p>

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<p style="text-align: right;">Page 14</p> <p>1 technical perspective but there were also legal and 2 regulatory requirements from the Department of 3 Energy. 4 Q. So help me understand, what kind of logs 5 are we even talking about? 6 A. So -- 7 MR. HILLEGAS: Objection; form. 8 A. So Trinity has, as I recall, seven layers 9 of storage, everything from a simple node in the 10 supercomputer and cluster all the way up to 11 long-term month or yearlong campaign storage that 12 would be associated with a specific job or set of 13 jobs. And all between there would be logs that 14 would have to be collected between systems. 15 Q. I'm sorry, I'm not following. 16 What was the point of the logs? To 17 document what? 18 A. Well, either technical, which would be for 19 debugging purposes, seeing if nodes were healthy, if 20 messages were being transmitted correctly, because 21 this was a large-scale supercomputer, all the way up 22 to campaign storage which would include regulatory 23 requirements for certain jobs that were running on 24 those systems. 25 Q. Regulatory requirements involving a</p>	<p style="text-align: right;">Page 16</p> <p>1 Q. Okay. So your point was someone else was 2 in charge of that aspect? 3 A. Someone else was in charge of the 4 policies. 5 Q. And ensuring compliance with them? 6 MR. HILLEGAS: Objection; form. 7 A. They would run audits to ensure. 8 Q. Okay. So besides the work you described 9 at Los Alamos, have you ever had any other work 10 experience where your job entailed determining 11 preservation or destruction of data? 12 A. At a high level, yes. There were many 13 times overseas when I would not be a part of the 14 investigating team, but when the FBI was doing a 15 CART analysis to recover forensic data, I would be 16 asked to, hey, don't roll those logs, we need to 17 preserve them, which would either be for email or at 18 the time it was IRC, Internet Relay Chat, because 19 that was used extensively around that time period. 20 Q. Okay. But just to put that in laymen's 21 terms, what you describe is you followed other 22 people's instructions about not -- when you said 23 "rolling logs," meaning making sure that certain 24 logs continued to run instead of being recycled; is 25 that accurate?</p>
<p style="text-align: right;">Page 15</p> <p>1 preservation of that data or others? 2 MR. HILLEGAS: Objection; form. 3 A. For the preservation. 4 Q. What were the regulatory requirements? 5 MR. HILLEGAS: Objection; form. 6 A. I was not involved in governance, so I 7 can't recall, but there were rules in place because 8 of the nature of the simulations. 9 Q. Okay. So when you say you were not 10 involved in governance, your point is you weren't 11 involved in the aspect of trying to comply with 12 whatever rules were in place in terms of what had to 13 be stored? Am I following right? 14 Let me ask an easier question for you. 15 You said you weren't involved in 16 governance. 17 What does that mean? 18 A. So normally there's going to be another 19 person, either technician or sometimes even a 20 governance officer, that is in charge of ensuring 21 data is properly stored, retained, we have correct 22 authorization for people that can access it, and 23 that's more of a policies and procedure job. It's 24 not a -- it's not a technical job. There's no real 25 technical acumen to it.</p>	<p style="text-align: right;">Page 17</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. Yes. Rolling logs refers to overwriting 3 the logging system. 4 Q. Okay. 5 A. So a log would be there and then it would 6 be overwritten. 7 Q. Okay. But to recap your overseas 8 experience that you just described, you just 9 followed other instructions about what data to 10 preserve; is that accurate? 11 MR. HILLEGAS: Objection; form. 12 A. That's correct. I didn't make the rules; 13 I just followed the rules. 14 Q. Do you have any formal education in 15 statistical analysis or data analytics? 16 A. Yes. 17 Q. What is it? 18 A. I have taken several courses in 19 statistics, Intro to Statistics. 20 Q. I'm sorry, did you say "Intro to 21 Statistics"? 22 A. Yes, introduction. 23 Probability models, a specific class in 24 data mining and machine learning. And then in my 25 dissertation, I used statistics quite a bit.</p>

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<p style="text-align: right;">Page 18</p> <p>1 Q. Let's go through those. Your Introduction 2 to Statistics, is that, like, a college-level course 3 we're talking about? 4 A. Yes, that was an undergraduate course. 5 Q. And how about probability models, was that 6 also an undergrad course? 7 A. Also an undergrad course. 8 Q. What did that course entail? 9 A. Mostly advanced probability models, which 10 was, at the time, light machine learning combined 11 with linear algebra. 12 Q. What year was this? 13 A. 2010. 14 Q. Okay. And then you said another class 15 that you took was data mining and machine learning. 16 How did that involve statistics? Explain 17 that to us. 18 A. So data mining is taking a massive amount 19 of data, finding different features to engineer from 20 it, and then using statistics to build a conclusion 21 from that data. And this can be, you know, massive 22 things like predicting the weather or simple things 23 like why you should put beer next to the diapers in 24 the grocery store, because most dads buy those when 25 they're going out when they have a newborn kid at</p>	<p style="text-align: right;">Page 20</p> <p>1 There's a lot of variables with that, 2 mostly to do with latency and the vehicles moving; 3 is it quicker to process it there or shuffle that up 4 to the cloud, process it, and send it back down. So 5 there was statistics involved in that. 6 Q. I'm sorry, maybe I'm missing the point. 7 Can you explain how statistics -- maybe we 8 should back up. 9 What is your definition of "statistics"? 10 A. My definition would be looking at large 11 data and then gathering calculations and results 12 from that large data. You can either do it through 13 sampling. You can do it through -- there's 14 different models. You can run a cloud forest on it 15 to get your KNN clustering. But it really depends 16 on how the size of your data is and your format you 17 want out. 18 A lot of modern models when you have 19 p-cutoffs, you're going to generate, you know, ten 20 results out, and you're going to pick the top three, 21 for instance. 22 And that's how a lot of, like, a vision 23 system is looking at an apple in a text -- this is 24 an apple. It has top three answers. The apple is 25 top one. Orange and banana could be the next two.</p>
<p style="text-align: right;">Page 19</p> <p>1 home. That's like the standard data mining metaphor 2 joke. 3 But nowadays you're getting a lot deeper 4 because we have AI and large language models. I 5 never went deep into that; I stayed with data 6 mining, which was a grad class. 7 Q. A graduate class, you said? 8 A. Yeah. 9 Q. Okay. And then explain to me how your 10 dissertation -- how it -- you said it incorp- -- I 11 don't remember the words you used. 12 You said it -- statistics played a role in 13 it in some way. 14 Can you explain that to us? 15 A. Yes. So my dissertation was based upon a 16 model of moving applications from mobile devices, so 17 mostly a vehicle but it could be a small airplane, 18 to edge, which would be a cell tower, a local 19 computing station, and then again moving those apps 20 to a cloud. 21 So there was some statistical models to 22 essentially say what's the efficiency of running 23 this on your mobile, on your iPad, or what's the 24 efficiency of running it on the edge or even moving 25 that data to the cloud.</p>	<p style="text-align: right;">Page 21</p> <p>1 But we have a P greater than 05, so we know the 2 apple is the highest hit. 3 Q. By the way, you said p-cutoff and you used 4 the acronym "P," is that short for probability? 5 MR. HILLEGAS: Objection; form. 6 A. As I recall. We usually use, like, P less 7 than 05 is, like, the joke standard that something 8 is assured, but my wheelhouse is computer science. 9 Q. So then what does the "P" stand for? 10 A. I can't recall. 11 Q. What does "P less than 05" mean? 12 A. It means very, very likely. These two 13 things are -- or multiple things are very 14 correlated. 15 Q. You said you don't recall what the "P" 16 stands for. 17 Do you recall what the "05" represents? 18 MR. HILLEGAS: Objection; form. 19 A. Not off the top of my head. 20 Q. Besides recalling that it was a joke, what 21 else can you tell us that you remember about the 22 concept of P being less than -- "P less than 05" 23 meaning something is very likely? 24 A. Most of what I do is create models in code 25 and then deploy them, so my recollection of Intro to</p>

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<p>1 Statistics is foggy.</p> <p>2 Q. We have talked about the classes that you</p> <p>3 have taken.</p> <p>4 Do you have any degrees or certifications</p> <p>5 that are specific to statistical analysis?</p> <p>6 A. That would be a math degree. I don't have</p> <p>7 a math degree.</p> <p>8 Q. You said it would be. I'm not asking you</p> <p>9 specifically if you have a math degree. Some people</p> <p>10 come out of college, for example, with a degree in</p> <p>11 statistical analysis.</p> <p>12 Do you have such a degree?</p> <p>13 A. No.</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 Q. And then there's also certifications. I</p> <p>16 know there's a long list of computer-related --</p> <p>17 sorry, computing-related certifications listed on</p> <p>18 your CV. We're going to look at it in a minute.</p> <p>19 Do you have any certifications that are</p> <p>20 specific to statistics?</p> <p>21 MR. HILLEGAS: Objection; form.</p> <p>22 A. I'm not aware of any.</p> <p>23 Q. Have you ever held yourself out, as in</p> <p>24 represented yourself as, an expert in statistical</p> <p>25 analysis?</p>	<p>1 also using Google Maps, they could plot to the next</p> <p>2 stop the quickest using the traffic data at that</p> <p>3 hour. And this was done Monday through Sunday every</p> <p>4 hour of the day.</p> <p>5 But the data was coming out of the</p> <p>6 government, so the LA County data was really rough.</p> <p>7 There were crimes reported in Las Vegas. There were</p> <p>8 crimes reported in the middle of the ocean. So I</p> <p>9 had to clean the dataset up quite a bit to get it to</p> <p>10 a usable spot.</p> <p>11 Q. What year was this paper written?</p> <p>12 A. I think 2016.</p> <p>13 Q. Do you know whether LA County implemented</p> <p>14 your suggestions in the paper in terms of placement</p> <p>15 of police and vehicles?</p> <p>16 A. I never talked to LA County about it. I</p> <p>17 did talk to Denton County about it, and they were</p> <p>18 interested in a system similar for foot patrols.</p> <p>19 Q. Did Denton County end up hiring you to do</p> <p>20 that or --</p> <p>21 A. No.</p> <p>22 Q. Sorry.</p> <p>23 -- or funding a grant in which you</p> <p>24 ultimately did that?</p> <p>25 MR. HILLEGAS: Objection; form.</p>
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<p>1 MR. HILLEGAS: Objection; form.</p> <p>2 A. I have not.</p> <p>3 Q. Has anyone ever hired you as an expert to</p> <p>4 perform statistical analysis?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 A. I have been paid in grant money for</p> <p>7 writing a paper. I don't know if I would consider</p> <p>8 that hired in the strictest sense, but I don't want</p> <p>9 to, you know, limit myself to what that was.</p> <p>10 Q. The paper that you ultimately wrote with</p> <p>11 that grant money, what was it about?</p> <p>12 A. It was about smart city planning. That</p> <p>13 was a large scale statistical model that placed</p> <p>14 police patrols and police cars into LA County, and</p> <p>15 this was based upon 13 years of LA County crime</p> <p>16 records. I think it was, like, 30 million crimes or</p> <p>17 so.</p> <p>18 At that point, I figured out the severity</p> <p>19 of the crimes. Obviously, you know, responding to a</p> <p>20 murder versus responding to check fraud have</p> <p>21 different severities.</p> <p>22 So once I grouped them by severity, I then</p> <p>23 ran a few KNN clustering to bring them into spots on</p> <p>24 the streets in LA County where not only would be</p> <p>25 responsive to crimes for each hour of the day, but</p>	<p>1 A. The grant was funded through my</p> <p>2 university, who then paid me to fly to Australia</p> <p>3 where I presented it.</p> <p>4 Q. Okay. The university funded grant for</p> <p>5 smart city planning.</p> <p>6 Do you know whether your work was ever</p> <p>7 actually deployed in any city is what I'm trying to</p> <p>8 figure out.</p> <p>9 A. While the system was reproducible, it was</p> <p>10 very specific to LA County based upon all the</p> <p>11 massaging and the engineering I had to do of the</p> <p>12 data. And I know for certain LA County did not</p> <p>13 implement that.</p> <p>14 Q. Okay. So besides this smart city planning</p> <p>15 paper that LA County did not implement, have you</p> <p>16 ever at any other point been hired to perform a</p> <p>17 statistical analysis?</p> <p>18 MR. HILLEGAS: Objection; form.</p> <p>19 A. No.</p> <p>20 Q. Have you ever taught a class on the topic</p> <p>21 of statistical analysis?</p> <p>22 MR. HILLEGAS: Objection; form.</p> <p>23 A. No.</p> <p>24 Q. So I'm not going to re-mark it, I'm just</p> <p>25 going to hand you a copy of what was marked as</p>

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<p>1 Exhibit 3 to your last deposition in this case. 2 If you wouldn't mind handing the extra 3 copies. Thank you. 4 I ask this only because it has been a 5 couple of months: Is this still an accurate 6 representation of your professional and educational 7 background? 8 MR. HILLEGAS: Objection; form. 9 A. I believe I have added another class to 10 this. It was in one of my reports. 11 Q. Are you looking through your stack for the 12 CV that was submitted to the Court in connection 13 with your recent declaration in support of 14 sanctions? 15 A. Yes. 16 Q. Okay. Do you remember what the class had 17 to do with? 18 MR. HILLEGAS: For counsel, I'll 19 stipulate that he discussed this at his last 20 deposition, including the class that was added. 21 Q. Oh, so your counsel's point is the class 22 was added before your last deposition and you talked 23 about it? 24 A. That's correct. 25 Q. I don't remember what it was if you</p>	<p>1 you never had a law degree; is that right? 2 A. That's correct. 3 Q. You're not licensed to practice law 4 anywhere? 5 A. I would not know where to begin. 6 Q. Have you ever attended, like, a training 7 or a seminar that has to do about the duties 8 surrounding preservation of electronic data for 9 litigation? 10 A. For litigation, no. 11 Q. How about, like, a training or a seminar 12 more generally about discovery, that is, the 13 discovery phase of civil litigation or 14 investigations? 15 A. No. 16 Q. And let me ask more broadly: Can you 17 think of any kind of formal or informal education, 18 like even a seminar, that you have attended touching 19 on the topic of preserving electronic data in the 20 context of litigation or investigations? 21 MR. HILLEGAS: Objection. Hold. 22 Objection; form. 23 A. In the context of investigations, yes. 24 Q. What is that? 25 A. Army training, that would be my 97Bravo --</p>
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<p>1 wouldn't mind reminding me? 2 A. It's a freshman class over tools and 3 techniques. I based it upon MIT's missing semester, 4 which is essentially a class for all the missing 5 pieces that freshman don't get. MIT has a 10-week 6 core schedule, as I recall. They work on quarters. 7 My university works on 16 weeks, so I had to add 8 such content and stretch it out a bit. 9 Q. Got it. 10 And, sir, in this CV are we going to 11 find -- because we have covered a couple of the 12 subsets, but are we going to find the word 13 "statistics" anywhere in it? 14 MR. HILLEGAS: Objection; form. 15 A. (Reviewed document.) Not directly. 16 Q. Like it won't contain the word, right? 17 A. Correct. 18 Q. Okay. I want to switch gears for a bit 19 and talk about a different topic and that is 20 document -- electronic document preservation. 21 Do you have any legal training or 22 education on document preservation in the context of 23 litigation? 24 A. No, I am not a lawyer. 25 Q. When you say "I'm not a lawyer," I take it</p>	<p>1 or for the court reporter, 97B -- MOS training 2 included forensic collection and handling of data. 3 And since I teach cybersecurity, I have 4 people from the NSA, my friends from FBI come in, 5 and I hold seminars usually once a semester for the 6 computer science, the Cybersecurity Club, and 7 they'll go over demos of forensically recovering 8 data for evidence and investigations. 9 MR. HILLEGAS: And I'll just caution 10 the witness to be aware of his security clearance 11 obligations. 12 Q. Okay. Let's take them one by one. 13 First, your Army training that you 14 described, 97B MOS training, what year are we 15 talking? 16 A. 1997. 17 Q. How much training are we talking about in 18 terms of time? 19 A. I believe that AIT was six months. That 20 sounds right. 21 Q. Okay. And what did -- from the -- I know 22 it has been quite a while. 23 What can you remember about what that 24 training was geared towards? 25 MR. HILLEGAS: Objection; form.</p>

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<p style="text-align: right;">Page 30</p> <p>1 A. I can say it was geared towards the 2 preservation of data in accordance with US and NATO 3 laws. And I think that's all I can go into on that. 4 Q. Okay. Can you at least tell us whether 5 that had anything to do with civil litigation, 6 parties suing each other? 7 A. No. This had counterintelligence aspects. 8 Q. Got it. 9 Okay. And then the second thing you 10 mentioned, that once-a-semester seminar that you put 11 together for cybersecurity, the demos that you 12 talked about, it sounded like they were having to do 13 with recovering data. 14 Is that right? 15 A. Yes, to forensically preserve it for use 16 in investigations. 17 Q. And when -- is this seminar still 18 occurring once a semester? 19 A. Yes. The agents usually change out. I 20 started this three years or so ago during summer 21 camps that I conduct with the NSA. This is the 22 GenCyber program, which is the NSA's way of reaching 23 out to high school students, also middle school, and 24 we would have the FBI come in during that and do a 25 quick presentation, three hours or so, on here is a</p>	<p style="text-align: right;">Page 32</p> <p>1 there's no way to recover that and preserve it. 2 I also have policies at the University of 3 North Texas. I don't know if you consider that a 4 government body or not. I mean, technically it is. 5 But we also have policies there and that's Title IX. 6 There's also FERPA regulations. 7 I believe every -- every three years we 8 have to purge student records, so I can't go back 9 and look at a student's homework from three years 10 ago because of privacy protections. 11 But student records, like the actual 12 course grade they got, are preserved, I think, 13 digitally for decades. 14 And I don't know -- I don't know if that's 15 a governance policy or if that's in case a student 16 comes back 10 years later and they want to continue 17 their education. So I don't know if there's a 18 specific law regarding that, but I know that's a 19 policy at the institution. 20 MS. NAJAM: Okay. I'll object as 21 nonresponsive. 22 Q. So my question was actually about training 23 or education so I'll ask it again. Not -- I totally 24 appreciate your answer about the experience you have 25 had.</p>
<p style="text-align: right;">Page 31</p> <p>1 criminal's hard drive, we have busted into their 2 apartment, let's preserve it, let's rip it open and 3 run the tools to preserve it and make images out of 4 it. 5 I don't do the summer camps anymore, but I 6 continue that with the cyber and computer science 7 club when I can. 8 Q. Stepping outside of, like, government 9 data, okay, I want to think about private parties 10 that are -- you know, companies, people who are not 11 working for the government. 12 Have you ever received any kind of 13 training or education about those folks' duties in 14 the context of preserving documents for litigation 15 or investigations? 16 A. Yes. 17 Q. Who -- how? Sorry. Explain that. 18 A. So I work for Fidelity Investments. We 19 are subject to many regulatory bodies. FINRA being 20 the main one as a brokerage. So all the 21 communications we have have to be preserved for a 22 certain amount of time. I believe it's seven years. 23 I'm not a part of governance, so I don't set those 24 policies, but they -- I'm affected by them. Things 25 like I can't use Zoom Chat, that's disabled, because</p>	<p style="text-align: right;">Page 33</p> <p>1 Have you received any formal training 2 about the duties that private parties, not the 3 government, have to preserve documents in 4 anticipation of litigation or investigations? 5 MR. HILLEGAS: Objection; form. 6 A. Yes. 7 Q. What is that? 8 A. At Fidelity Investments, we have training 9 every year regarding our duty to preserve and why we 10 have to preserve data because of regulatory bodies. 11 Q. And, more specifically, Fidelity is 12 subject to FINRA requirements about its document 13 preservation, correct? 14 A. Yes. I'm not certain if there's other 15 requirements. Fidelity is a fairly large 16 international company also through Fidelity 17 International, and I know on -- with Europe, we have 18 got a lot of different rules for preservation of 19 data. 20 Q. Do you know how the requirements that 21 Fidelity is subject to, whether they are FINRA 22 related or from Europe, how those relate to the 23 rules for companies who are in lawsuits in the 24 United States -- 25 MR. HILLEGAS: Objection; form.</p>

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<p style="text-align: right;">Page 34</p> <p>1 Q. -- or is that something that's outside of 2 your expertise? 3 MR. HILLEGAS: Objection; form. 4 A. It's outside. Any retention is 5 automatically handled. 6 Q. I'm a little confused by your answer, so 7 I'm going to ask: When you said "outside," are we 8 agreeing that my original question of comparing what 9 Fidelity is subject to worldwide and with respect to 10 FINRA, how that relates to U.S. companies and U.S. 11 lawsuits, that that is outside your expertise? 12 MR. HILLEGAS: Objection; form. 13 A. Correct. To your question "or is that 14 something outside my expertise," it is outside my 15 expertise. Retention governance is automatically 16 handled for me. 17 Like I stated earlier, Zoom Chat is 18 disabled. I can't use it because they couldn't 19 figure out a way to retain it. 20 Q. When you say "they," you're talking about 21 Fidelity? 22 A. Yes. The -- specifically the IT 23 administrators we have for Zoom. 24 Q. Whereas do you ever use Zoom personally, 25 like not using your Fidelity Zoom account?</p>	<p style="text-align: right;">Page 36</p> <p>1 use, I'm not aware. 2 Q. What -- so let's back up. 3 Do you use any -- actually, we'll touch on 4 this later. We'll come back to it. 5 Let me finish -- let's go back to your 6 experience as it pertains to the obligations of 7 companies in the United States. 8 Are you familiar at all with the Federal 9 Rules of Civil Procedure? 10 A. No. 11 Q. Are there any states whose Rules of Civil 12 Procedure you are familiar with? 13 A. No. 14 Q. Let me ask a broad -- broader question. 15 Do you have any formal training on the 16 process of preserving and producing documents to 17 comply with civil discovery obligations in any 18 jurisdiction? 19 A. Preserving, producing, civil, no. 20 Q. Do you consider yourself to be an expert 21 on the ethical or legal rules governing document 22 retention for litigation purposes? 23 MR. HILLEGAS: Objection; form. 24 A. No. 25 Q. Okay. Now to bring it to chats, do you</p>
<p style="text-align: right;">Page 35</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. Yes. 3 Q. So on that version of Zoom where you're 4 signed in personally, you can still use Zoom Chat; 5 is that accurate? 6 MR. HILLEGAS: Objection; form. 7 A. That's correct. 8 Q. Do you happen to know what the retention 9 setting is on when you use Zoom Chat when you're 10 personally signed in? 11 MR. HILLEGAS: Objection; form. 12 Q. Let me ask a better question. 13 When you're signed in to Zoom Chat, not 14 using your Fidelity account, do you know for how 15 long those messages are kept, if at all? 16 A. I can't -- I can count on one hand the 17 number of Zoom Chat messages I have sent. It's not 18 my preferred way to chat. I do not know the 19 retention for it on a personal account. 20 Q. In fact, do you even know whether it is 21 retained? 22 A. I believe there is a setting on the 23 administrator's side, because at University of North 24 Texas, chat is enabled, and it has to be retained 25 for some stuff as I understand, but for personal</p>	<p style="text-align: right;">Page 37</p> <p>1 consider yourself an expert on what a company in the 2 United States is required to do in terms of 3 preserving ephemeral messages when it may anticipate 4 a lawsuit? 5 MR. HILLEGAS: Objection; form. 6 A. As an engineer, no. This would be a 7 policy that would be from either data governance or 8 from a legal body inside the company, a lawyer. 9 Q. So not you? 10 A. Not me. 11 Q. Has anyone ever hired you to get your 12 expert advice on document retention practices? 13 A. And "retention" here, we mean specifically 14 for civil litigation? 15 Q. We can start there. 16 A. No. 17 Q. Now more broadly, has any company, not the 18 government, ever hired you and said, 19 Dr. Hochstetler, we need your expertise on the 20 preservation of electronic data? 21 I'll stop there. 22 A. Clarifying question: For civil 23 litigation? 24 Q. Then let me ask a better question. Okay. 25 Has any private company ever hired you for</p>

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<p style="text-align: right;">Page 38</p> <p>1 your particular expertise in terms of preserving 2 electronic data to comply with any legal obligation? 3 MR. HILLEGAS: Objection; form. 4 A. No. 5 Q. Before this case, have you ever served as 6 an expert, whether consulting or in -- as -- in a 7 testifying capacity, on a company's document 8 retention practices? 9 A. No. 10 Q. Before this case, has anyone ever reached 11 out and asked you to determine whether someone 12 failed to preserve relevant evidence for purposes of 13 a lawsuit or investigation? 14 A. Yes. 15 Q. When was that? 16 A. This is December. September time frame. 17 The State of New Jersey. 18 Q. You mean this year? 19 A. Yes. I'm sorry, this year. 20 Q. Are you able to tell us what exactly you 21 were engaged to do? 22 MR. HILLEGAS: I'll just object that 23 to the extent that you're covered by confidentiality 24 restrictions, you're permitted to not answer. 25 A. I think I can answer in a general sense.</p>	<p style="text-align: right;">Page 40</p> <p>1 a party to a civil lawsuit adequately preserved 2 documents? 3 MR. HILLEGAS: Objection; form. 4 A. I can speak about the chat logs and what's 5 missing from them, which was my assignment. 6 MS. NAJAM: Okay. I'll object as 7 nonresponsive. 8 Q. Totally understand but I do need to ask it 9 again. 10 Are you qualified to tell a Court whether 11 a party to a civil lawsuit adequately preserved 12 documents? 13 MR. HILLEGAS: Objection; form. 14 A. I'll reach back to my assignment, which 15 was to analyze the chat log dataset and determine if 16 there were missing chats via analysis. 17 Q. And you did that analysis, right, sir? 18 A. That is correct. 19 Q. You came up with a count of messages that 20 were sent or received in the log period when history 21 was off, right? 22 A. Correct. 23 Q. And we're going to get to that number in a 24 minute, but before we get into the numbers, I want 25 to know whether you believe you are qualified as an</p>
<p style="text-align: right;">Page 39</p> <p>1 It is a cybersecurity forensic 2 investigation that has a civil litigation component. 3 Q. I want to make sure you understood the 4 original question. 5 Is your testimony that this recent 6 engagement in connection with New Jersey involves 7 you being asked to determine whether someone failed 8 to preserve relevant evidence for purposes of a 9 lawsuit or investigation? 10 A. I want to clarify. They have reached out 11 to me; I have not engaged with them. So I don't -- 12 I want to make that clarification. 13 Q. Okay. Let me ask you this: Is this 14 lawsuit the first time that you're being asked to 15 opine on whether a company adequately retained 16 electronic documents in the context of litigation or 17 investigation? 18 A. When you say "is this lawsuit," we're 19 talking about ad tech, not the lawsuit I spoke about 20 a second ago. 21 Q. Correct, this Google ad tech case. I'm 22 sorry. 23 A. That is correct. 24 Q. Dr. Hochstetler, let me just ask you: Do 25 you think you are qualified to tell a Court whether</p>	<p style="text-align: right;">Page 41</p> <p>1 expert to tell the Court in this case whether Google 2 adequately preserved documents. 3 MR. HILLEGAS: Objection; form. 4 A. My assignment was to analyze the chat log 5 dataset. It only contained metadata; it did not 6 contain the actual chats themselves. 7 Q. Okay. There may be discomfort with the 8 words I'm using, so I'm going to show you that 9 they're your words. 10 I'm going to mark your reply report as 11 Exhibit 2. 12 Would you mind -- I'm sorry, I said reply 13 report. 14 Can you confirm that what I just marked as 15 Exhibit 2 is a copy of your December 2024 report in 16 this case replying to Dr. Malkiewicz? 17 (Exhibit 2 marked.) 18 A. Mr. Malkiewicz. 19 Q. Oops, you're right. Sorry. 20 A. Yes, this is it. 21 Q. Go to page 10 with me, please, and 22 paragraph 21. 23 Your first sentence there reads, 24 Mr. Malkiewicz, however, agrees with me that Google 25 has failed to adequately preserve messages.</p>

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<p style="text-align: right;">Page 42</p> <p>1 Did I read that right?</p> <p>2 A. That is correct.</p> <p>3 Q. Now putting aside whether Mr. Malkiewicz,</p> <p>4 in fact, agrees with you, you are expressing an</p> <p>5 opinion, are you not, sir, that Google failed to</p> <p>6 adequately preserve messages?</p> <p>7 A. This is my opinion.</p> <p>8 Q. Okay. So back to my question from a</p> <p>9 couple of minutes ago: Are you qualified to opine</p> <p>10 in this case that Google failed to adequately</p> <p>11 preserve messages?</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 A. I'm qualified based upon my analysis of</p> <p>14 the chat log dataset.</p> <p>15 Q. What would have been adequate in your</p> <p>16 opinion? Where can we find that?</p> <p>17 Your opinion is that Google failed to</p> <p>18 adequately preserve messages, right?</p> <p>19 A. That's correct.</p> <p>20 Q. Actually, we'll hit that later. You can</p> <p>21 put the reply report aside. We'll come back to</p> <p>22 that.</p> <p>23 Have you ever been a litigant, that is, a</p> <p>24 plaintiff or a defendant in a lawsuit?</p> <p>25 A. No.</p>	<p style="text-align: right;">Page 44</p> <p>1 working on this case up until that point.</p> <p>2 Do you recall that testimony?</p> <p>3 A. Yes.</p> <p>4 Q. Can you give me a total now of your total</p> <p>5 time spent on this case?</p> <p>6 A. 350 hours.</p> <p>7 Q. Now, those CSV files containing the</p> <p>8 metadata from the chat logs, they were produced in</p> <p>9 late August of this year; is that right?</p> <p>10 A. That sounds right --</p> <p>11 Q. When did --</p> <p>12 A. -- because --</p> <p>13 Q. I'm sorry. Go ahead.</p> <p>14 A. I became aware of them in early September.</p> <p>15 Q. So regardless of when they were produced,</p> <p>16 you got the metadata in September?</p> <p>17 A. Yes, as I recall.</p> <p>18 Q. Is it fair for us to assume that you</p> <p>19 started your analysis in September?</p> <p>20 A. Same day.</p> <p>21 Q. And are you -- do you have any basis to --</p> <p>22 well, let me ask you: Do you dispute Google's</p> <p>23 description of the logs as having a purpose of</p> <p>24 debugging?</p> <p>25 MR. HILLEGAS: Objection; form.</p>
<p style="text-align: right;">Page 43</p> <p>1 Q. Besides reviewing code for litigants in</p> <p>2 lawsuits, is this Google ad tech lawsuit your</p> <p>3 first -- firsthand experience with a lawsuit?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. Yes.</p> <p>6 Q. Okay. I have a couple more questions,</p> <p>7 then we can take a break. We have been almost going</p> <p>8 an hour.</p> <p>9 Are you still being paid \$500 an hour for</p> <p>10 your work on this case?</p> <p>11 A. That's correct.</p> <p>12 Q. And your prior work -- we haven't talked</p> <p>13 about it today, but big picture, you provided a</p> <p>14 technical assessments of how Google's ad tech tools</p> <p>15 work; is that accurate?</p> <p>16 A. Yes.</p> <p>17 Q. Can we agree that that is different in</p> <p>18 nature than the work you did on the chats logs?</p> <p>19 MR. HILLEGAS: Objection; form.</p> <p>20 A. Yes. The chats log was mostly just</p> <p>21 getting it to a format I could use in Excel, whereas</p> <p>22 the previous work was looking at all the different</p> <p>23 code over time that Google had produced.</p> <p>24 Q. In your last deposition in October, you</p> <p>25 testified that you spent between 100 and 250 hours</p>	<p style="text-align: right;">Page 45</p> <p>1 A. I see no evidence to the contrary.</p> <p>2 Q. So are you -- just to be clear, are you</p> <p>3 planning to opine in this case that the purpose of</p> <p>4 the logs is to monitor chat preservation practices</p> <p>5 by employees?</p> <p>6 MR. HILLEGAS: Objection; form.</p> <p>7 A. No.</p> <p>8 Q. Just so we can back up, for -- for a</p> <p>9 layperson like myself to understand, what does it</p> <p>10 mean for a log like this to be for debugging</p> <p>11 purposes?</p> <p>12 A. So we'll take the retention setting as an</p> <p>13 example. Retention setting wasn't always a feature.</p> <p>14 You would add this feature to the system, to the</p> <p>15 distributed chat system, then you would be logging</p> <p>16 out at each point in the system are data coming in</p> <p>17 and out. And we want to make sure that the data is</p> <p>18 not munged or changed between the parts of the</p> <p>19 system.</p> <p>20 So for Retention Setting, for instance,</p> <p>21 they add the new feature, then they can view the</p> <p>22 logs and make sure, oh, yeah, retention setting is</p> <p>23 moving between conversations correctly.</p> <p>24 There's timing information there too. So</p> <p>25 if systems are moving slower than they are expected</p>

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<p>1 to, if messages are being delayed, those debug logs 2 have extra information to give you a hint on what 3 the purpose could be or why there's an issue on the 4 system. Debugging logs are the bread and butter of 5 IT. 6 Q. To put it in, like, layperson's terms, is 7 an accurate recap that they exist for folks to make 8 sure on the back end that the -- whatever feature 9 we're talking about here, the chat, that it's 10 running properly? 11 A. Yeah. 12 Q. And -- go ahead. 13 A. There's usually other systems to make sure 14 things are healthy, and those -- that's a big can of 15 worms. So just nailing it down to, like, what logs 16 do is for debugging. You usually wouldn't fix 17 production issues with logs. 18 Q. What's a production issue? 19 A. Chat is down. 20 Q. Right. 21 A. Usually we have other things in place. We 22 have some sort of telemetry or sampling systems that 23 are going to give us a hint why something is 24 unhealthy. 25 But the logging, just like this</p>	<p>1 A. Yes. 2 Q. How many people? 3 MR. HILLEGAS: Same objection. 4 MS. NAJAM: What's the objection? 5 MR. HILLEGAS: The same objection to 6 not go beyond the question. He can answer your 7 question to the number, but not to disclose the 8 people and the conduct that they were -- 9 MS. NAJAM: So it's not an objection. 10 The instruction is don't name them. No problem. 11 MR. HILLEGAS: Yes. 12 Q. Okay. 13 A. One. 14 Q. Okay. You said one person? 15 A. That's correct. 16 Q. Who actually wrote your October 2024 17 report about chat logs? 18 A. I did. 19 Q. Okay. And just to -- same question on the 20 reply: Did you also write that? 21 A. Yes. 22 Q. Did you also write your declaration in 23 between those two reports we'll look at soon? 24 A. I needed help with lawyer formatting for 25 that, so the formatting is definitely lawyering. I</p>
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<p>1 transcript, we can go back and look and, like, oh, 2 ad tech was two As instead of A-d, you know, and we 3 can immediately fix it in -- not realtime, I guess, 4 is the answer. 5 Q. Got it. 6 And I neglected to ask you this before: I 7 saw from your last deposition that you had named a 8 couple of folks who had assisted you in terms of 9 your technical assessment of Google's ad tech stack. 10 Did anyone assist you in your chat logs' 11 analysis? 12 MR. HILLEGAS: Objection; form. 13 In terms of the expert stipulation, 14 the names and conduct that they conducted are not 15 discoverable but you may the question "yes" or "no." 16 MS. NAJAM: He answered -- he named 17 people in his last deposition so... 18 MR. HILLEGAS: He can answer your 19 question "yes" or "no," which is what you asked. But 20 I'm telling him not to go any farther than that under 21 the terms of the expert stipulation. 22 Q. Okay. So my original question was 23 actually not even for names; it was just did anyone 24 assist you. 25 Did anyone assist you?</p>	<p>1 wrote the words. 2 Q. Okay. And then the one person who did 3 assist you in your analysis of the chat logs between 4 you and that person, can you give me a percentage 5 of -- in terms of work done? 6 MR. HILLEGAS: Objection; form. Under 7 the terms of the expert stipulation, the amount of 8 hours spent on any given project is not discoverable, 9 and we instruct the witness not to answer. 10 Q. Are you going to take your counsel's 11 advice to not answer my question about the 12 percentage of work that you versus this unknown 13 person did? 14 A. I honestly can't recall, so I'll take my 15 counsel's advice. 16 MS. NAJAM: All right. We have been 17 going an hour. I'm actually happy to keep going, but 18 then it will be sundown by the time I stop. 19 So should we take a break? 20 THE WITNESS: Probably. 21 MS. NAJAM: Okay. 22 THE WITNESS: And I feel back for her 23 fingers so... 24 THE VIDEOGRAPHER: Off the record, 25 10:11.</p>



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<p style="text-align: right;">Page 50</p> <p>1 (Recess 10:11 a.m. to 10:23 a.m.)</p> <p>2 THE VIDEOGRAPHER: We're on the</p> <p>3 record. The time is 10:23.</p> <p>4 Q. Professor Hochstetler, before we move on,</p> <p>5 is there anything that you testified about in part</p> <p>6 one today that you need to change or take back?</p> <p>7 A. No.</p> <p>8 Q. In terms of your opinions on this case</p> <p>9 involving chat logs, did counsel for the State --</p> <p>10 sorry, for Texas provide you with any assumptions</p> <p>11 that you relied on in forming your opinions?</p> <p>12 MR. HILLEGAS: Objection; form,</p> <p>13 privilege.</p> <p>14 Do not disclose any communications</p> <p>15 that you may have had with counsel. You may answer</p> <p>16 the question "yes" or "no."</p> <p>17 A. No.</p> <p>18 Q. Did counsel provide you with any facts or</p> <p>19 data that you relied on in forming your opinions?</p> <p>20 MR. HILLEGAS: Same objection and</p> <p>21 instruction.</p> <p>22 A. Yes.</p> <p>23 Q. What were they?</p> <p>24 A. Number one, the chat log dataset.</p> <p>25 Number two would be GOOG-AT-MDL-C, for</p>	<p style="text-align: right;">Page 52</p> <p>1 Q. Now I want you to go to Exhibit 2, which</p> <p>2 is your December report, on page 26.</p> <p>3 Am I right that in connection with your</p> <p>4 reply to Mr. Malkiewicz, you reviewed an additional</p> <p>5 four depositions?</p> <p>6 MR. HILLEGAS: Objection; form.</p> <p>7 A. Correct.</p> <p>8 Q. That's Mr. Jayaram, [REDACTED]</p> <p>9 [REDACTED]</p> <p>10 A. That's correct.</p> <p>11 Q. Have you reviewed any other deposition</p> <p>12 testimony to date in term -- that relates to your</p> <p>13 opinions on the chats?</p> <p>14 A. I have reviewed many but I only relied</p> <p>15 upon these.</p> <p>16 Q. Which other ones did you review in</p> <p>17 connection with your chats-related opinions?</p> <p>18 A. I can't recall.</p> <p>19 Q. And is one reason you can't recall because</p> <p>20 it's not listed in either report, that is, the</p> <p>21 depositions that you reviewed but did not rely on in</p> <p>22 forming your chats-related opinions?</p> <p>23 A. Yes. When I did searches for -- within</p> <p>24 the depositions, I was searching specifically for</p> <p>25 keywords like "chat" or "history."</p>
<p style="text-align: right;">Page 51</p> <p>1 Charlie, -000088212. And this listed the log fields</p> <p>2 and the internal descriptions from Google. There</p> <p>3 was 255 different types of actions, and a lot of</p> <p>4 them aren't very descriptive, so Google provided</p> <p>5 this document for me to figure out what they were.</p> <p>6 And lastly, I don't know of it offhand but</p> <p>7 Google produced a document mapping the ID numbers</p> <p>8 within the chat log dataset to the actual email</p> <p>9 addresses because the chat log dataset itself just</p> <p>10 had numbers for the users.</p> <p>11 Q. Okay. So besides providing you</p> <p>12 documentation that originated with Google, did</p> <p>13 counsel for Texas provide you with any facts or data</p> <p>14 that you relied on to form your opinions?</p> <p>15 MR. HILLEGAS: Same objection and</p> <p>16 instruction.</p> <p>17 A. No.</p> <p>18 Q. Now, in your October 4th report -- it's</p> <p>19 Exhibit 1 for the record -- you listed on page 45</p> <p>20 four depositions that you reviewed.</p> <p>21 A. I'm there.</p> <p>22 Q. It is [REDACTED]</p> <p>23 and Mr. Korula.</p> <p>24 Did I read that right?</p> <p>25 A. That is correct.</p>	<p style="text-align: right;">Page 53</p> <p>1 Q. Okay. So it sounds like you were given</p> <p>2 access to a database containing depositions and you</p> <p>3 ran searches within the database; is that right?</p> <p>4 A. Yes.</p> <p>5 Q. Do you know whether that database was a</p> <p>6 full universe of depositions in this case or some</p> <p>7 subset?</p> <p>8 MR. HILLEGAS: Objection to form.</p> <p>9 A. I believe it to be all depositions.</p> <p>10 Q. So you think it included, for example,</p> <p>11 depositions of the 17 states/territories who are</p> <p>12 plaintiffs in this case?</p> <p>13 A. Yes, because I recall there would be hits</p> <p>14 for the State of Florida, as I recall, maybe someone</p> <p>15 from their ad agency.</p> <p>16 Q. Okay. So what -- you said you ran search</p> <p>17 terms. You mentioned the word "chats."</p> <p>18 Were there any other search terms that you</p> <p>19 used?</p> <p>20 A. "History."</p> <p>21 Q. Besides "chats" and "history," what other</p> <p>22 search terms did you use to identify potentially</p> <p>23 relevant testimony?</p> <p>24 A. I think the word "usage."</p> <p>25 Q. Any others?</p>

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<p style="text-align: right;">Page 54</p> <p>1 A. I don't think so.</p> <p>2 Q. Did you search for the word "hold" or</p> <p>3 "holds" as in "litigation holds"?</p> <p>4 A. No.</p> <p>5 Q. And then how did you determine when you</p> <p>6 came upon a hit whether this was something you were</p> <p>7 going to rely upon or not?</p> <p>8 A. It depends on which report. Originally I</p> <p>9 was using, for my supplemental -- there are so many</p> <p>10 reports, I'm so sorry.</p> <p>11 For my supplemental, I was using the</p> <p>12 depositions as a check against the log data.</p> <p>13 Q. Okay.</p> <p>14 A. Since all I had was the log data, I felt</p> <p>15 like I needed a second check to make sure this data</p> <p>16 was valid.</p> <p>17 Q. And when you say "supplemental report,"</p> <p>18 you're talking about your October 4th report, right?</p> <p>19 A. Yes, supplemental.</p> <p>20 Q. When you say you're checking it against</p> <p>21 the log data, you mean to verify that your</p> <p>22 conclusions from the log data were consistent with</p> <p>23 testimony?</p> <p>24 Is that what you're saying?</p> <p>25 MR. HILLEGAS: Objection; form.</p>	<p style="text-align: right;">Page 56</p> <p>1 for those terms we just talked about, you didn't</p> <p>2 just come back with four deponents who talked about</p> <p>3 how many chats they send, right?</p> <p>4 A. That's correct.</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 Q. I'm sorry?</p> <p>7 What did do you with the other folks'</p> <p>8 testimony about the number of chats they sent other</p> <p>9 than the four you listed in your October report?</p> <p>10 MR. HILLEGAS: Objection; form.</p> <p>11 A. Many of the depositions that were hits for</p> <p>12 "chat" or "history," when it got to a question about</p> <p>13 how many they sent or received per day, they</p> <p>14 couldn't remember and they couldn't equate that</p> <p>15 versus their emails. They didn't know at all.</p> <p>16 So for that, it wasn't a check on the</p> <p>17 data. That told me nothing about how valid the</p> <p>18 dataset was, so I didn't use those depositions.</p> <p>19 Q. What did you do when you came across</p> <p>20 testimony indicating that a particular employee sent</p> <p>21 less than your average in your log dataset?</p> <p>22 Did you consider that?</p> <p>23 MR. HILLEGAS: Object to form.</p> <p>24 A. Yes.</p> <p>25 Q. But you didn't rely on it in forming your</p>
<p style="text-align: right;">Page 55</p> <p>1 A. I think more basic than that. One of the</p> <p>2 first things you need to do when you get big data,</p> <p>3 there's going to be possibly bad things inside it.</p> <p>4 I wasn't certain that when the logs were produced, a</p> <p>5 file was zipped wrong or a CSV got munged.</p> <p>6 It's so much data, I had to ensure that</p> <p>7 the numbers I was getting back for sends and</p> <p>8 receives were in the same magnitude that the Google</p> <p>9 employees were actually sending and receiving chats.</p> <p>10 For instance, as a hypothetical, if I</p> <p>11 looked at the data and it showed someone sending a</p> <p>12 thousand chats a day Monday through Sunday, that's a</p> <p>13 red flag. Something is wrong with that data.</p> <p>14 So this was my initial review of the</p> <p>15 dataset to make sure, hey, is this data good, do I</p> <p>16 need to go back to counsel and inform them something</p> <p>17 is wrong with the data, give it to me again, you</p> <p>18 know, simple things like maybe it got zipped wrong.</p> <p>19 So I relied upon those depositions to sort</p> <p>20 of align expectations with sends and receives of</p> <p>21 messages.</p> <p>22 Q. In connection with your October report,</p> <p>23 you only listed four, right?</p> <p>24 A. Yes.</p> <p>25 Q. But, sir, when you searched the database</p>	<p style="text-align: right;">Page 57</p> <p>1 October opinions. Fair?</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 A. No. In fact, one of the custodians in the</p> <p>4 log dataset, for whatever reason, sent very few</p> <p>5 messages. So -- [REDACTED] is the person.</p> <p>6 So in particular, that lined up with some</p> <p>7 of the depositions where they said, I don't use chat</p> <p>8 much. So that was valid.</p> <p>9 If a deposition had come back and said, I</p> <p>10 use chat a thousand times a day, I would have been</p> <p>11 more concerned about the dataset I got.</p> <p>12 Q. So just to make sure I understood that</p> <p>13 last question (sic), taking [REDACTED] as an</p> <p>14 example, you did see deposition testimony from folks</p> <p>15 at Google who testified they didn't use chat very</p> <p>16 much. Fair?</p> <p>17 A. That is correct.</p> <p>18 Q. Now, I already marked as Exhibit 2 your</p> <p>19 December report replying to the opinions of</p> <p>20 Mr. Malkiewicz.</p> <p>21 And I have not yet marked it, so let me do</p> <p>22 that now, your declaration. That is Exhibit 3 to</p> <p>23 this deposition. If you wouldn't mind passing the</p> <p>24 extra copies along.</p> <p>25 So I notice you're looking at a different</p>

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<p>1 version than what I handed you. Did you bring your 2 own copies of items to today's deposition? 3 (Exhibit 3 marked.) 4 A. I did because I like binders. 5 Q. Are any of them marked or notated at all? 6 A. The only thing I have is for the 7 appendices, I have got page dividers. 8 Q. Are there any -- there's no handwritten 9 notes? 10 A. No. No. 11 Q. All right. Then you are free to use 12 whatever version you want, but just for the record, 13 Exhibit 3, can you confirm it's your declaration 14 from earlier this month in support of the Plaintiff 15 States' motion for spoliation sanctions? 16 A. Yes. 17 Q. All right. So let me ask you this, sir: 18 If we wanted to know all the instances with which 19 you disagree with Mr. Malkiewicz's opinion, are they 20 going to be contained in your declaration plus your 21 December 2024 report? 22 A. The December '24 would be the reply 23 report. 24 Q. Exhibit 2, yes. 25 A. That is correct.</p>	<p>1 Q. Did you review either his declaration in 2 support of sanctions or his expert report served 3 last week? 4 A. I have not. 5 Q. Sir, you use Gmail; is that right? 6 A. I have several Gmail accounts. 7 Q. And, in fact, on your CV, it may not be 8 the one sitting in front of us today, but on some -- 9 the version of the CV that was submitted to the 10 Court, your email contact information is a Gmail 11 account, right? 12 A. That's my professional Gmail, yes. 13 Q. Do you use other Google products? 14 MR. HILLEGAS: Objection; form. 15 A. Google Calendar is separate from Gmail now 16 I think. And Google Maps. I use API for Google 17 Maps a bit. 18 Q. Have you ever used Google Chat? 19 A. Yes. 20 Q. Have you ever -- 21 A. Well -- 22 Q. Go ahead. 23 A. It changed names. So if we're talking 24 about, like, the umbrella that is, quote, Google 25 Chat, yes. I have not used -- I think I used it</p>
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<p>1 Q. Okay. And more -- even bigger picture, I 2 want to make sure: Do you have any opinions 3 regarding chats or chat logs that are not already 4 included in your October report, your December 5 declaration, or your December report, that is, 6 Exhibits 1, 2, and 3 to today's deposition? 7 MR. HILLEGAS: Objection; form. 8 A. No. But I would like to reserve future 9 reports if I need to write them. 10 Q. Do you have any reason, sitting here 11 today, to anticipate that you're going to need to 12 disclose a new opinion? 13 A. I'm not certain. 14 Q. Sitting here today as an expert for at 15 least the State of Texas in this case, do you have 16 any opinions on Google -- Google Chats that you 17 haven't already put down in those three first 18 exhibits to your deposition? 19 A. No. 20 Q. Have you ever spoken with Ignatius Grande? 21 A. No. 22 Q. Are you aware that he is also an expert 23 hired by the plaintiffs in this case on the topic of 24 chats? 25 A. Yes.</p>	<p>1 when it was called Hangouts or before that maybe. 2 Q. Okay. Have you ever used Google Chat or 3 Google Hangouts or previous iterations of the 4 instant messaging tool provided by Google in 5 connection with work? 6 MR. HILLEGAS: Objection; form. 7 A. No. 8 Q. You mentioned that at Fidelity, that Zoom 9 Chat has been disabled. 10 At Fidelity, is there an instant messaging 11 application that the company does use? 12 A. Yes. 13 Q. Have -- go ahead. 14 A. I don't believe I can disclose what it is. 15 Q. I'm not asking what it is. 16 Have you ever used it? 17 A. Yes. 18 Q. Are you aware whether those instant 19 messages are subject to the same preservation as 20 emails at that company? 21 A. From the training I have to take, they are 22 subject to the same rules. 23 Q. In terms of preservation? 24 A. In terms of preservation. 25 Q. Is there an option for history to be off?</p>

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<p>1 Let me put it a different way.</p> <p>2 Is there a way for them to not be retained</p> <p>3 in the same manner as emails?</p> <p>4 A. There are different levels of retention,</p> <p>5 but there's not an "off" setting.</p> <p>6 Q. Okay. How about at the University of</p> <p>7 North Texas, is there an instant messaging tool</p> <p>8 available for employees of the university?</p> <p>9 A. Yes.</p> <p>10 Q. Have you ever used it?</p> <p>11 A. Yes.</p> <p>12 Q. Do you know whether those messages are</p> <p>13 subject to the same preservation practices and</p> <p>14 policies as UNT emails?</p> <p>15 A. I believe they are. I don't recall</p> <p>16 specifically.</p> <p>17 Q. So you think they are but can you tell us</p> <p>18 the basis for thinking that?</p> <p>19 A. During the training regarding policies,</p> <p>20 chats are not called out specifically but neither is</p> <p>21 email. It's just regarding communication and if</p> <p>22 it's communication to a student or an employee of</p> <p>23 the university or external. That's, like, the three</p> <p>24 buckets of how it's divided.</p> <p>25 Q. But in terms of for how long and the</p>	<p>1 chat tool?</p> <p>2 A. Yes. I'm hesitating and thinking about it</p> <p>3 because in my brain, it's not a chat tool. It's</p> <p>4 Zoom or it's Teams.</p> <p>5 Q. Okay. I will try to use technically</p> <p>6 appropriate wording.</p> <p>7 These are applications that now have</p> <p>8 features such as video or phone chat?</p> <p>9 A. Yes.</p> <p>10 Q. Okay. Let's talk about your opinions a</p> <p>11 little bit more.</p> <p>12 Let's start by pulling out Exhibit 1,</p> <p>13 page 5, paragraph 8.</p> <p>14 A. Page -- what page?</p> <p>15 Q. Page 5, paragraph 8.</p> <p>16 A. Oh, page 5. Sorry, I heard page 1. I was</p> <p>17 very confused. I am there.</p> <p>18 Q. All right. So we may do this in reverse</p> <p>19 order, but in paragraph 8, you say that it is</p> <p>20 therefore your opinion that the total number of</p> <p>21 messages not retained by Google employees subject to</p> <p>22 a litigation hold was a million and a half or more</p> <p>23 in 2022 only.</p> <p>24 Did I read that correctly?</p> <p>25 A. That is correct.</p>
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<p>1 extent to which they're preserved, do you know</p> <p>2 whether it's the exact same for emails and UNT</p> <p>3 chats?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. I do not definitively know.</p> <p>6 Q. By the way, I meant to ask you: When</p> <p>7 using Google Chat, whether it's been called that or</p> <p>8 its previous names or iterations, do you recall</p> <p>9 whether the tool has features like video or audio</p> <p>10 chat available?</p> <p>11 MR. HILLEGAS: Objection; form.</p> <p>12 A. When I used the Google Chat system, I</p> <p>13 don't think it had either because this would be 2004</p> <p>14 maybe.</p> <p>15 Q. Since 2004, have you used other companies'</p> <p>16 instant messaging tools?</p> <p>17 A. Yes.</p> <p>18 Q. Can we at least agree that nowadays these</p> <p>19 chat tools contain features like video chat or audio</p> <p>20 chat?</p> <p>21 MR. HILLEGAS: Objection; form.</p> <p>22 A. Yes.</p> <p>23 Q. In other words, nowadays these chat tools,</p> <p>24 there's other ways to chat other than typing, like</p> <p>25 you can initiate a video or phone call using the</p>	<p>1 Q. Okay. And I know there's another</p> <p>2 declaration, there's another report, we will get to</p> <p>3 them.</p> <p>4 But my first question to you, sir, is</p> <p>5 whether you stand by that opinion today?</p> <p>6 A. Yes.</p> <p>7 Q. Are you also offering the opinion that</p> <p>8 this annual number that you came up with can be</p> <p>9 applied to other years?</p> <p>10 A. I can apply the same formula to other</p> <p>11 years, but the number of custodians, employees under</p> <p>12 litigation hold, which is in Exhibit D, has changed</p> <p>13 over time. And I only ran the numbers for 2022</p> <p>14 because the window of time I had in the dataset was</p> <p>15 only for 2022.</p> <p>16 Q. Well, it was also a bit into 2023, right?</p> <p>17 A. It was a bit into 2023.</p> <p>18 Q. Okay. But going back to that specific --</p> <p>19 okay, let me make sure I understand.</p> <p>20 When you say the formula, are you talking</p> <p>21 about 20,000 lost messages per employee times number</p> <p>22 of legal hold custodians?</p> <p>23 Is that the formula that you're saying you</p> <p>24 could apply beyond '22?</p> <p>25 A. Roughly.</p>

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<p style="text-align: right;">Page 66</p> <p>1 Q. Okay. But you have not actually tried to 2 do a separate calculation for any other year. Is 3 that fair to say? 4 A. Correct. 5 Q. And is it your opinion that you could use 6 that formula, which is roughly 20,000 messages per 7 employee multiplied by number of folks on hold, that 8 you could use that formula dating back to, say, 9 2000? 10 A. No, because Google Chat didn't exist then, 11 as I understand. 12 Q. So for what year are you opining you can 13 take that formula and apply it -- for what years? 14 MR. HILLEGAS: Objection; form. 15 A. I believe I only ran the numbers for 2022. 16 Q. Well, here is what's confusing me. Go to 17 paragraph 82. It's on page 43. 18 In your last paragraph in your October 19 report, you write, My analysis leads me to conclude 20 that it is reasonable to assume that the number of 21 messages lost per year, across all employees under 22 the litigation hold, was close to 1.5 million. 23 So my question, sir, is you wrote here 24 "per year," which years? 25 A. So this is using the average from that</p>	<p style="text-align: right;">Page 68</p> <p>1 You're offering the opinion of roughly 2 1.5 (sic) messages lost per year for the time period 3 2019 to 2022. 4 Did I get that right? 5 A. 1.5 million. 6 Q. But otherwise I got that right? 7 MR. HILLEGAS: Objection; form. 8 A. I believe that's correct. 9 Q. Now let's talk about that roughly 10 20,000-message per employee number. 11 Let's go to your original -- sorry, your 12 October report, Exhibit 1, page 14, Table 2. 13 A. I am there. 14 Q. Can you just confirm that in coming up 15 with that roughly \$20,000 -- sorry, 20,000-message 16 number that it was based solely on the log dataset 17 for these five employees listed in Table 2? 18 A. Correct, this constituted the entire 19 dataset. 20 Q. And to put a finer point on it, to come up 21 with your calculation of roughly 20,000 messages per 22 employee per year, you considered solely the number 23 of messages sent or received by these five with 24 history off during the log period; is that right? 25 A. Only sent.</p>
<p style="text-align: right;">Page 67</p> <p>1 chat log dataset, which I then applied to 2022 2 because that was the year the chat log's from. All 3 I had to go on was the chat log dataset. All I had 4 was those five custodians within that time period. 5 MS. NAJAM: Object as nonresponsive. 6 Q. My question is: In telling the Court that 7 you have estimated the number of messages lost per 8 year, are you confining it to 2022 or are you going 9 to testify that I believe roughly this number was 10 also lost in 2007, 2015, et cetera? 11 A. I would estimate since 2019, and I believe 12 I go into that in my reply. 13 Q. What is the basis for using 2019 to 2022 14 as the years that you believe you could apply that 15 formula to? 16 A. So for 2019, we had a -- the COVID 17 pandemic. That started in November, as I recall. I 18 think California shut down in December of that year, 19 so there was massive work from home. 20 Due to work from home, it is likely to 21 increase electronic communications, chat being one 22 of those. 23 Q. Okay. We will come back to the work from 24 home aspect of chat usage, but I just want to make 25 sure we're on the same page.</p>	<p style="text-align: right;">Page 69</p> <p>1 Q. Only sent. Got it. 2 And I said "log period," but to put an 3 even finer point on it, to come up with the 4 20,000-message annual number, you considered only 5 messages sent by these five with history off through 6 February 8, 2023, true? 7 MR. HILLEGAS: Objection; form. 8 A. So, yes, that's about the time that the 9 automatic retention was put in place and they could 10 no longer turn off history. 11 I believe in deposition, I think, from 12 [REDACTED] there's phasing of that though. It is my 13 understanding that these first five, the entire 14 dataset were part of that first phase. I think 15 there were other employees that were part of other 16 phases. 17 And the first date of the dataset, there's 18 time zone issues, so it's, like, one day or the 19 other day, and that's just the time zone issue. 20 Q. Let me ask you this then. 21 In using these five's logs, when coming up 22 with an average per day messages not retained 23 number, did you use 68 days or some lesser number? 24 A. No, I used 68. 25 Q. Okay. And in your October report -- so if</p>



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<p style="text-align: right;">Page 70</p> <p>1 you need to go there, it's -- I'm looking at 2 page 43, Footnote 106. 3 In coming up with your roughly 1.5 million 4 messages for 2022 number, am I correct that you got 5 that number by taking a letter from Google's counsel 6 from August of '24 that identified several employees 7 who were subject to hold and then filtering it to 8 figure out who you thought was on hold in the year 9 '22? 10 A. That is correct. 11 Q. And just to be clear, that letter I'm 12 talking about, I think you pointed to this earlier, 13 that's Exhibit D to your report. 14 A. That's correct, the Freshfields Bruckhaus 15 Deringer from Robert McCallum. 16 Q. And, sir, big picture, one of your 17 opinions is you can use the log dataset for 68 days 18 to extrapolate to an entire year, first, for just 19 those five custodians, right? 20 MR. HILLEGAS: Objection; form. 21 A. Yes, conservatively. 22 Q. And you're saying conservatively because 23 that 68-day period contains some holidays, right? 24 A. Yes, contains holidays. That was honestly 25 one of the first -- I spoke about making sure the</p>	<p style="text-align: right;">Page 72</p> <p>1 [REDACTED] and [REDACTED] in, right, they 2 were already part of the log dataset? 3 A. That's correct. 4 Q. And your point is that when you took their 5 68-day numbers of messages sent with history off, 6 you think it was conservative to extrapolate for the 7 rest of the year for those five folks, true? 8 A. Yes. 9 Q. Did you ever consider excluding one of the 10 custodians who had a significantly higher number of 11 sent messages? 12 MR. HILLEGAS: Objection to form. 13 A. So that would be excluding Mr. Sundar 14 Pichai? 15 Q. [REDACTED]? 16 A. Her usage is the highest but I wouldn't 17 say it's out of bounds. I felt like I had a good 18 mix in this dataset. I had low usage. I had high 19 usage. I felt the dataset was correct because of 20 the holiday gaps. 21 We saw spikes on January 20th from two -- 22 I think two or three of the users, which 23 corresponded directly to real world events. And I 24 felt the data was good from that. 25 MS. NAJAM: I'll object as</p>
<p style="text-align: right;">Page 71</p> <p>1 data was good before. And as soon as I was able to 2 ascertain the message counts were probably okay, I 3 then plotted them by day of week, and I started to 4 see patterns of not sending chats on Saturday and 5 Sunday, not the work week. So that correlated with, 6 okay, this is actually good. So... 7 Q. Okay. But back to my question: Is there 8 any other basis for you to say that extrapolating 9 from that 68 days to the full 365 for these 10 custodians, is there any other basis for what you 11 say is conservative other than the fact that 12 included a holiday period? 13 MR. HILLEGAS: Objection; form. 14 A. I think by averaging the five of them, 15 including [REDACTED] and [REDACTED] balanced out, and I 16 felt it was more conservative by adding those two in 17 because they had low message counts. 18 Q. You said "adding those two in." 19 They were already part of the original log 20 dataset, right? 21 A. They were. But Mr. Malkiewicz made a 22 mistake and thought I had removed them when I was 23 averaging. 24 Q. Okay. We'll get to that in a second. But 25 just to clarify, there was no adding those --</p>	<p style="text-align: right;">Page 73</p> <p>1 nonresponsive. 2 Q. I'll re-ask my original question. 3 Did you ever excluding -- and I'll name 4 her now -- [REDACTED]? 5 MR. HILLEGAS: Objection; form. 6 A. No. 7 Q. [REDACTED] sent over 5,000 messages in 8 the log period, true? 9 If you need help, you can go to page 23, 10 Table 7. 11 A. (Reviewed document.) Yes. 12 Q. That's over 2,000 -- 13 A. I see -- 14 Q. Sorry. 15 And that's over 2,000 more than the next 16 custodian in this log dataset, true? 17 A. Correct. 18 Q. Okay. So back to what we were talking 19 about in terms of taking the numbers for those five 20 and the log period and extending those for the rest 21 of the year for just that group. 22 Your next step is to opine that that 23 20,000 number that you get for the whole year, that 24 that would apply to the remaining over 100 employees 25 on litigation hold in this case; is that right?</p>



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<p style="text-align: right;">Page 74</p> <p>1 A. That's correct.</p> <p>2 Q. And that's how you arrive at the</p> <p>3 paragraph 8 we read earlier, that the total number</p> <p>4 of messages not retained by Google employees subject</p> <p>5 to a litigation hold was 1.5 million or more in</p> <p>6 2022; is that right?</p> <p>7 A. My exact verbiage is what's close to</p> <p>8 1.5 million.</p> <p>9 Q. Okay. So just to be clear, you arrived at</p> <p>10 that opinion by using log data for five employees in</p> <p>11 the dataset to make generalizations about other</p> <p>12 Google employees?</p> <p>13 MR. HILLEGAS: Objection; form.</p> <p>14 A. I use the entire dataset that Google</p> <p>15 produced.</p> <p>16 Q. Five folks for 68 days?</p> <p>17 MR. HILLEGAS: Objection; form.</p> <p>18 Q. Right?</p> <p>19 A. Correct, the entire dataset.</p> <p>20 Q. To extrapolate the number of sent messages</p> <p>21 with history off for over a hundred other employees</p> <p>22 for an entire year, right?</p> <p>23 MR. HILLEGAS: Objection; form.</p> <p>24 A. Yes, I used the entire dataset that Google</p> <p>25 produced.</p>	<p style="text-align: right;">Page 76</p> <p>1 company, if they got promoted -- I hope no one gets</p> <p>2 demoted. So I felt I was being conservative in</p> <p>3 having that number.</p> <p>4 Q. And then you decided to remove that</p> <p>5 conservatism when it came to your December</p> <p>6 declaration in support of sanctions; is that</p> <p>7 accurate?</p> <p>8 A. Yes.</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 Q. So let's see what you put in your</p> <p>11 declaration when the Plaintiff States have asked the</p> <p>12 Court to sanction Google.</p> <p>13 That's Exhibit 3, right, sir?</p> <p>14 A. Yeah, it's -- I get confused -- yes,</p> <p>15 Exhibit 3.</p> <p>16 Q. Look at the sticker at the bottom.</p> <p>17 A. Yeah.</p> <p>18 Q. There you go.</p> <p>19 Sir, when you signed this declaration, did</p> <p>20 you know it would be filed with the court in support</p> <p>21 of spoliation sanctions against Google?</p> <p>22 A. Yes.</p> <p>23 Q. Did you have an understanding as to</p> <p>24 whether that's a pretty extraordinary request to</p> <p>25 make of a Court?</p>
<p style="text-align: right;">Page 75</p> <p>1 Q. And we looked at -- sorry, I forgot to ask</p> <p>2 you this.</p> <p>3 To arrive at your roughly \$1.5 million</p> <p>4 (sic) annual number, you ended up taking that --</p> <p>5 A. No dollars.</p> <p>6 Q. Do I keep saying dollars?</p> <p>7 A. The dollar number scares me.</p> <p>8 Q. Okay. I'll start over.</p> <p>9 In coming up with that roughly 1.5 million</p> <p>10 message per year number, you actually applied that</p> <p>11 20,000 per year per employee number by half of the</p> <p>12 141 custodians in this case; is that right?</p> <p>13 A. That is correct.</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 Q. And am I -- in terms of why you in your</p> <p>16 October report used that half, is that because you</p> <p>17 were taking into account that some employees may not</p> <p>18 still be at the company in 2022?</p> <p>19 MR. HILLEGAS: Objection; form.</p> <p>20 A. Yes. My -- additionally my understanding</p> <p>21 of litigation holds is a layman; my expertise is in</p> <p>22 computer science.</p> <p>23 I didn't know if you could come off of</p> <p>24 litigation hold, so I didn't know if employees</p> <p>25 would -- you know, if they moved roles within the</p>	<p style="text-align: right;">Page 77</p> <p>1 MR. HILLEGAS: Objection; form.</p> <p>2 A. No.</p> <p>3 Q. Do you have an understanding one way or</p> <p>4 the other how often it is that parties to lawsuits</p> <p>5 ask a Court to sanction the other side for not</p> <p>6 properly preserving documents?</p> <p>7 MR. HILLEGAS: Objection; form.</p> <p>8 A. My only visibility into it is reading news</p> <p>9 articles about it. I'm not a lawyer.</p> <p>10 Q. So before you formed your opinions that</p> <p>11 are expressed in this declaration, had you read news</p> <p>12 coverage about Google and its chat preservation?</p> <p>13 A. No.</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 Q. So when you said "news coverage," are you</p> <p>16 talking about generally, like not specific to</p> <p>17 Google?</p> <p>18 A. Just in general.</p> <p>19 When I think of spoliation, I think of bad</p> <p>20 milk, not legal terms.</p> <p>21 MR. HILLEGAS: Please allow counsel to</p> <p>22 finish her statement and then give me a chance to</p> <p>23 actually object to that question, please.</p> <p>24 MS. NAJAM: He's not objecting to your</p> <p>25 milk. It's okay.</p>

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<p>1 MR. HILLEGAS: I'm not objecting to 2 the milk, but I -- I wasn't quite sure where the 3 question was ending on that. 4 THE WITNESS: We should all object to 5 spoiled milk. 6 MR. HILLEGAS: That's fair. 7 Q. Okay. So let's go to page 4 of your 8 declaration, paragraph 13. Actually, the part of 9 your statement I want to look at is at the top of 10 page 5 where you say "I conclude." 11 Are you with me? 12 A. Yes. 13 Q. I conclude that it is likely that those 14 141 custodians sent approximately 2.8 million Google 15 Chat messages with the Google Chat history setting 16 "off" during 2022. 17 Did I read that right? 18 A. That is correct. 19 Q. So that is you dropping that halving, 20 h-a-l-v-i-n-g, that you had done in your December 21 report -- I'm sorry, your October report, right, 22 sir? 23 MR. HILLEGAS: Objection; form. 24 A. That is correct. 25 Q. Did you learn of any new information in</p>	<p>1 December declaration that approximately 2.8 million 2 messages were sent with history off for those 141 3 custodians? 4 MR. HILLEGAS: Objection; form. 5 A. I cannot put a percent likelihood. 6 Q. Is there a margin of error that you can 7 give us? 8 A. Based upon the log dataset, I analyzed the 9 entirety of it, so the margin of error would be 10 zero. 11 Q. The margin of error of zero applies to the 12 data that is found in the log dataset, right? 13 MR. HILLEGAS: Objection; form. 14 A. That is correct. 15 Q. So in other words, a margin of error of 16 zero applies, in your view, to the number of 17 messages sent during the 68 days by those five 18 people with history off, right? 19 MR. HILLEGAS: Objection; form. 20 A. Yes, and the extrapolation out to the 21 larger number of custodians. 22 Q. So your opinion is -- I'm sorry, I'm 23 getting confused. 24 When I asked you how likely is it that 25 2.8 million chat messages were sent in 2022 with the</p>
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<p>1 that intervening time, between your October report 2 and your December declaration, to cause you to 3 conclude that all 141 custodians on hold were, in 4 fact, still at Google in '22 and still on hold? 5 MR. HILLEGAS: Objection; form. 6 A. Not specifically, but in the intervening 7 time, Mr. Malkiewicz report was received, and I was 8 expecting to get an actual number for litigants for 9 that time period. 10 And, instead, Mr. Malkiewicz produced a 11 number of 202 employees, which caught me by surprise 12 because that's outside the 188 that Robert McCallum 13 had provided me in the spreadsheet. 14 At that point, I felt I didn't get a 15 correct number from Mr. Malkiewicz, so -- and he 16 didn't put the 188 number in his report either, so I 17 went with 141 custodians. 18 Q. Okay. So to recap that, that conservative 19 estimate that we saw in your October report, you're 20 now doubling that by removing that halving you had 21 previously done before, right? 22 MR. HILLEGAS: Objection; form. 23 A. That is correct. 24 Q. What do you mean by "likely"? Can you put 25 a percentage likelihood on your opinion from your</p>	<p>1 history off by the custodians in this lawsuit, you 2 said you couldn't put a number on the percentage 3 likelihood. 4 Did I hear you right? 5 A. Correct. 6 Q. If you can't tell us what percentage 7 likelihood that fact is true, the fact of 8 2.8 million messages, how are you also saying the 9 margin of error is zero? 10 MR. HILLEGAS: Objection; form. 11 A. Because I used the entirety of data that 12 was produced. 13 Q. So you're assuming that there's no error 14 in taking the log dataset data and extrapolating it 15 across the remaining custodians for the entire year? 16 MR. HILLEGAS: Objection; form. 17 A. I have seen no evidence to the contrary. 18 I expected Mr. Malkiewicz to produce evidence to the 19 contrary regarding either message usage, different 20 log dataset, the number of custodians, and that 21 didn't happen. 22 MS. NAJAM: Okay. I object as 23 nonresponsive. 24 Q. In terms of my original question of asking 25 you what is your margin of error in telling this</p>

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<p style="text-align: right;">Page 82</p> <p>1 Court that 2.8 million chats were sent in 2022 with 2 history off by the litigation hold employees, when I 3 asked you if your margin of error was zero -- first 4 of all I'll pause there. 5 Are you with me so far? I have recapped 6 your testimony properly? 7 A. Yes. 8 Q. You get there by assuming -- or, sorry, at 9 least -- you get there by concluding that you can 10 extrapolate. 11 Is that an accurate recap? 12 A. Because of my conservative evaluation of 13 the dataset, yes. 14 Q. So back to the question before that about 15 the likelihood, is it more than 50 percent likely 16 that 2.8 million chats were sent by litigation hold 17 custodians with history off in that year? 18 MR. HILLEGAS: Objection; form. 19 A. I cannot put a percent number on that 20 verbiage. 21 Q. Okay. Let's go with your more 22 conservative original number from your October 23 report. 24 Can you tell us how likely it is that in 25 2022, roughly 1.4 or 1.5 million chats were sent</p>	<p style="text-align: right;">Page 84</p> <p>1 Can you confirm for us that this is a 2 spreadsheet entitled Send/Receive Calculations that 3 you provided with your December reply report? 4 (Exhibit 4 marked.) 5 A. Yes. 6 Q. And, Professor, is the point of this to 7 show that you can reach even higher numbers than 8 \$1.5 million -- sorry, I keep doing it -- 9 1.5 million chats per year? 10 MR. HILLEGAS: Objection; form. 11 A. Correct. The point was to show more of 12 the reasoning behind why I felt the 1.4 number was 13 conservative. 14 Q. Okay. And to arrive at any of these per 15 year totals in the second-to-last column, am I 16 correct that one assumption you have made is that if 17 someone was ever on a litigation hold for this case, 18 they must have sent chat messages in the year '22? 19 MR. HILLEGAS: Objection; form. 20 Q. I guess with the exclusion of your lower 21 bound number of 1.4 million? 22 MR. HILLEGAS: Objection; form. 23 A. Yes. And you notice two rows below, that 24 was actually an upper/lower where I removed 25 Dr. Varian.</p>
<p style="text-align: right;">Page 83</p> <p>1 with history off by litigation hold employees? 2 MR. HILLEGAS: Objection; form. 3 A. Extrapolating from the dataset, more than 4 likely. 5 Q. So more than 50 percent, but you can't put 6 more of a finer number on it; is that accurate? 7 MR. HILLEGAS: Objection; form. 8 A. No, I used all the data available. 9 Q. When you say "I used all the data 10 available," we're just talking about the log 11 dataset, right? 12 A. That's correct. 13 Q. Okay. So we have gone through that you 14 used all that data. 15 My question is: Can you give the Court a 16 percentage likelihood that in 2022, 1.5 million 17 messages were sent by employees subject to a 18 litigation hold in this case with history off? 19 MR. HILLEGAS: Objection; form. 20 A. I cannot give a specific percentage. 21 Q. We have talked about a couple numbers. 22 There's a couple of punch line numbers. I think it 23 may help to show the spreadsheet, so I'm going to 24 mark it as Exhibit 4. 25 Please pass the extra down.</p>	<p style="text-align: right;">Page 85</p> <p>1 Q. Understood. 2 So did you -- I understand your criticism 3 of Mr. Malkiewicz not determining how many people 4 were actually on hold in '22 and were still there, 5 et cetera. 6 Did you undertake to determine how many of 7 the 141 employees had left Google before 2022? 8 MR. HILLEGAS: Objection; form. 9 A. I think I had asked counsel if we could 10 get employee records to make that determination. I 11 can't remember what the reply was on that. 12 Q. Did you undertake to determine how many of 13 the 141 had left the Display Ads business, to the 14 extent they were in it to begin with, by that date, 15 2022? 16 MR. HILLEGAS: Objection; form. 17 A. Same answer. 18 Q. Can we at least agree that if someone had 19 left the Display Ads business by 2022 but was using 20 chat that year, that the odds that any particular 21 unpreserved message would have involved Display Ads 22 would be lower for that person? 23 MR. HILLEGAS: Objection; form. 24 A. Yes, but I also assumed that someone would 25 replace that person in their role. Ad tech wasn't</p>

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<p style="text-align: right;">Page 86</p> <p>1 shrinking; ad tech was just growing. 2 MS. NAJAM: I'll object as 3 nonresponsive to everything past "yes." 4 Q. Okay. Can you tell me between 2019 and 5 2023 the number of annual employees in Google's 6 ad tech space? 7 MR. HILLEGAS: Objection; form. 8 A. I cannot. It wasn't part of the dataset. 9 Q. Okay. And was it part of your -- any 10 expert engagement in this matter to determine the 11 size in terms of number of employees of Google's 12 Display Ads business? 13 MR. HILLEGAS: Objection; form. 14 A. No. 15 Q. So your assumption that if somebody left 16 the business, they would have been replaced by 17 someone else who would be on legal hold, is that 18 just -- you're going off your gut there? 19 MR. HILLEGAS: Objection; form. 20 A. Going off industry expertise and 30 years 21 of doing this. 22 Q. Do you have any data learned in this case 23 or in the industry to actually opine to the Court 24 that for sure if someone left the Display Ads 25 business before 2022, my numbers are unaffected</p>	<p style="text-align: right;">Page 88</p> <p>1 and then we can take a break. 2 (Exhibit 5 marked.) 3 Q. So if you could go to his paragraph 18, 4 which is on page 9. 5 A. I am there. 6 Q. He references there that plaintiffs have 7 received the benefit of 202 custodians agreed across 8 this case. 9 So, Professor, is that your basis for 10 assuming that 202 employees were actually on 11 litigation hold in this case? 12 MR. HILLEGAS: Objection; form. 13 A. Yes. I don't think he references 202 any 14 other time. 15 Q. Do you know whether there can be a 16 difference between the group of employees whose 17 files a company is collecting versus a group of 18 employees who are subject to a litigation hold in a 19 case? 20 MR. HILLEGAS: Objection; form. 21 A. No. 22 Q. Like, do you know whether you can produce 23 documents in a lawsuit from, you know, person A even 24 if person A was not a part of a litigation hold in 25 that particular case?</p>
<p style="text-align: right;">Page 87</p> <p>1 because they would have been switched out by another 2 human? 3 MR. HILLEGAS: Objection; form. 4 A. Yes. 5 Q. Is it just the fact that Display Ads as a 6 business grew over time? 7 MR. HILLEGAS: Objection; form. 8 Q. Let's do this a different way. 9 I think I have already asked you: Do you 10 know the number of employees who were in Google's 11 Display Ads business in any particular year from 12 2019 to 2023? 13 MR. HILLEGAS: Objection; form. 14 A. I do not. 15 Q. Okay. So a minute ago you talked about 16 how Mr. Malkiewicz had referenced a higher count of 17 employees, and that count you're talking about is 18 202, right? 19 A. Yes. 20 Q. Okay. So let's go to your -- actually, 21 let me show for you Mr. Malkiewicz's report. 22 I'm going to mark that as Exhibit 5. 23 MR. HILLEGAS: We have been on the 24 record about an hour. 25 MS. NAJAM: Okay. This will be quick</p>	<p style="text-align: right;">Page 89</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. I assume you can because you don't own the 3 records. 4 Q. Sorry, I did not -- what do you mean by 5 "you don't own the records"? 6 A. When you use a company resources to chat 7 or communicate, you don't own those. 8 Q. Got it. I think we're on the same page. 9 If it turns out that 202 employees were 10 not on litigation hold in this case in 2022 -- and 11 we're looking at your spreadsheet that is 12 Exhibit 4 -- then can we ignore the first two per 13 year counts here, the one that's approximately 14 8 million messages a year and approximately 15 4 million messages a year? 16 MR. HILLEGAS: Objection; form. 17 A. So to clarify, paragraph 18, he doesn't 18 mean 202 custodians? 19 Q. No, I'm just asking if there is a 20 difference between a custodian whose stuff was 21 collected versus custodians who are on litigation 22 hold. We have talked about that. 23 More specifically, I'm asking you: If 202 24 is not the right number of folks that were on hold, 25 then can we ignore your top two numbers on your</p>

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<p>Page 90</p> <p>1 spreadsheet of per year chats sent with history off?</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 A. Yes. I base that upon Mr. Malkiewicz's</p> <p>4 report. So if his report is wrong, those numbers</p> <p>5 will be wrong.</p> <p>6 Q. Or if you misinterpreted his report and</p> <p>7 there were not 202 employees subject to hold in this</p> <p>8 case, then that would mean that the 8 and 4 million</p> <p>9 should not be looked at?</p> <p>10 A. Correct. I took "custodian" to mean under</p> <p>11 litigation.</p> <p>12 Q. Okay. Got it.</p> <p>13 A. Litigation hold. I'm sorry.</p> <p>14 Q. Okay. So I had asked you earlier if you</p> <p>15 could put a percentage likelihood on your</p> <p>16 calculations of 1.5 million a year or 2.8 million a</p> <p>17 year.</p> <p>18 I do want to ask the same question for</p> <p>19 your estimations of 4 million and 8 million a year.</p> <p>20 Can you give us a percentage likelihood,</p> <p>21 assuming that 202 is correct?</p> <p>22 MR. HILLEGAS: Objection; form.</p> <p>23 A. I can't give a percentage likelihood.</p> <p>24 MS. NAJAM: Okay. This is a good time</p> <p>25 for a break.</p>	<p>Page 92</p> <p>1 Q. Do you know whether at public companies</p> <p>2 there's an uptick in communications at end of</p> <p>3 quarter for certain employees whose jobs relate to</p> <p>4 reporting, financial reporting?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 Q. Just for the record, are you looking for</p> <p>7 the chart of the five employees in the log dataset?</p> <p>8 A. Yes, I am.</p> <p>9 Q. So you're free to look at that, but my</p> <p>10 question is just whether generally whether you know</p> <p>11 if at public companies, there's an uptick in</p> <p>12 communication at quarter end for folks whose jobs</p> <p>13 involve financial reporting?</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 A. No.</p> <p>16 Q. So I take it that's not something you</p> <p>17 considered in determining whether you can</p> <p>18 extrapolate from the log dataset to the rest of the</p> <p>19 year for these folks or others?</p> <p>20 MR. HILLEGAS: Objection; form.</p> <p>21 A. Correct.</p> <p>22 Q. Did you consider the possibility that any</p> <p>23 particular chat during the holiday time frame is</p> <p>24 less likely to be business related around the</p> <p>25 holidays?</p>
<p>Page 91</p> <p>1 THE VIDEOGRAPHER: Off the record,</p> <p>2 11:25.</p> <p>3 (Recess 11:25 a.m. to 11:41 a.m.)</p> <p>4 THE VIDEOGRAPHER: We're on the</p> <p>5 record. The time is 11:41.</p> <p>6 Q. Dr. Hochstetler, before our last break, we</p> <p>7 talked a little bit about how you believed your</p> <p>8 count of messages sent with history off during the</p> <p>9 log period was conservative due to the intervening</p> <p>10 holidays.</p> <p>11 Do you recall that generally?</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 A. Yes.</p> <p>14 Q. Do you have some expertise, in your view,</p> <p>15 on employees' patterns of the use of ephemeral</p> <p>16 messaging, like, over the course of a year?</p> <p>17 MR. HILLEGAS: Object to the form.</p> <p>18 A. Having worked in industry for almost</p> <p>19 30 years, people take PTO during the winter holiday.</p> <p>20 I saw that reflected in the log dataset.</p> <p>21 Q. Have you ever studied trends in chat, that</p> <p>22 is, ephemeral messaging usage, as a part of any</p> <p>23 research you have done or any training you have had?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. No.</p>	<p>Page 93</p> <p>1 MR. HILLEGAS: Objection; form.</p> <p>2 A. There were only a few chats sent around</p> <p>3 the holidays at all.</p> <p>4 Q. How many chats with history off were sent</p> <p>5 between, say, 12/21 and January 3rd?</p> <p>6 Do you have that number handy?</p> <p>7 MR. HILLEGAS: Object to form.</p> <p>8 A. Maybe 300.</p> <p>9 Q. And where can I find that in your report?</p> <p>10 A. Figures -- this is the supplemental</p> <p>11 expert. Figures --</p> <p>12 Q. October?</p> <p>13 A. The supplemental.</p> <p>14 And that would be Figure 5.</p> <p>15 Q. What page are you on?</p> <p>16 A. Sorry, page 26.</p> <p>17 So Figure 5, Sundar Pichai sends 10, 20 --</p> <p>18 maybe that's 30 between 12/21 and January 3rd. Then</p> <p>19 in Figure 6, which is [REDACTED], maybe 150 there.</p> <p>20 [REDACTED] on Figure 7 sends -- the crosshatches are so</p> <p>21 little, maybe 5. [REDACTED] sends none. And then</p> <p>22 [REDACTED] or [REDACTED] -- I'm honestly -- I'm</p> <p>23 probably butchering the name -- sends about 150,</p> <p>24 maybe a little bit more, maybe 170.</p> <p>25 Q. Sir, those add up to more than 300, right?</p>

24 (Pages 90 - 93)



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<p style="text-align: right;">Page 94</p> <p>1 A. I said around 300 -- maybe 300, around 2 300. 3 Q. Do you know how many unpreserved chats 4 during the log period were along the lines of "happy 5 holidays" or "what are your plans for the break"? 6 MR. HILLEGAS: Objection; form. 7 A. I have no idea because they wouldn't be 8 retained. 9 Q. But you said -- 10 A. They wouldn't be produced by Google. 11 Q. But based on your decades of just general 12 work experience, can we at least agree that it's 13 possible that around the holidays, there's a higher 14 percent that chat messages with history off were not 15 even business related? 16 MR. HILLEGAS: Objection; form. 17 A. Possible but unlikely. A good example 18 would be I send a message of "happy holidays" to my 19 reports one time. I don't do it more than once. 20 That would be one chat. 21 Q. So your testimony is that when you wish 22 someone "happy holidays" that you work with, that's 23 just going to be one message, no replies, no 24 responses about people's holiday plans, et cetera? 25 MR. HILLEGAS: Objection; form.</p>	<p style="text-align: right;">Page 96</p> <p>1 called Play? 2 MR. HILLEGAS: Objection; form. 3 A. Yes, I understand those were the only logs 4 available because the rest were destroyed. 5 Q. When you say "the rest were destroyed," 6 what are you talking about? 7 MR. HILLEGAS: Objection; form. 8 A. Google keeps a rolling log, so those logs 9 are overwritten. 10 Q. Okay. And is there anything unusual in 11 your experience about these kinds of debugging logs 12 being rolling? 13 MR. HILLEGAS: Objection; form. 14 A. In my professional experience, the 55 days 15 seems low. 16 MS. NAJAM: Okay. I'll object as 17 nonresponsive. 18 Q. Putting down -- putting aside the day 19 count, is there anything unusual in your experience 20 about a private company's debugging logs for instant 21 messages being rolling? 22 MR. HILLEGAS: Objection; form. 23 A. As long as we refer to these logs as 24 metadata, because some companies will include 25 communications in the logs also, correct, rolling is</p>
<p style="text-align: right;">Page 95</p> <p>1 A. I can't speak for everyone. I personally 2 don't get involved in my reports' lives. I try to 3 give them space. 4 Q. Okay. And do you know one way or the 5 other whether your personal experience of not 6 getting involved in your colleagues' lives, whether 7 that was the culture at Google? 8 MR. HILLEGAS: Objection; form. 9 A. I have no idea. 10 Q. Okay. Just to wrap that up, can we at 11 least agree that it is -- that it is possible that 12 chats sent around the holiday time frame related to 13 non-business matters that are specific to holiday 14 time? 15 MR. HILLEGAS: Objection; form. 16 Q. And I said "chats"; I meant chats with 17 history off. 18 MR. HILLEGAS: Same objection. 19 A. Yes. 20 Q. All right. So let's talk a little bit 21 more about the five custodians in the log dataset. 22 First of all, do you understand that the 23 reason their log data was produced to the states in 24 this ad tech case is solely because those particular 25 logs were among those produced in a different case</p>	<p style="text-align: right;">Page 97</p> <p>1 normal. 2 Q. And by the way, how many private 3 companies -- you don't have to name them -- do you 4 actually have experience with in terms of metadata 5 logs for ephemeral messaging applications? 6 MR. HILLEGAS: Objection; form. 7 A. Four. 8 Q. And it's those four companies that caused 9 you to opine a minute ago that you thought 55 days 10 was low? 11 MR. HILLEGAS: Objection; form. 12 A. The 55 days would be low for debugging 13 logs in general, not specifically for chat logs. 14 Q. Got it. 15 Okay. What was the Play case where these 16 logs originally came from, what was that about? 17 A. As I recall, it was -- it was a lawsuit in 18 California about the Google Play Store with Epic 19 Games. I think that's correct. 20 Q. And what is -- 21 A. Sorry. 22 Q. Sorry to interrupt you. 23 What is the Google Play Store? 24 MR. HILLEGAS: Objection; form. 25 A. It's the equivalent of the iOS App Store.</p>

25 (Pages 94 - 97)



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<p style="text-align: right;">Page 98</p> <p>1 It's a store where you can buy and download 2 applications for your mobile device, I think also 3 your computer. I'm not certain on that. 4 Q. Did the -- 5 A. It would be for phone or tablet. 6 Q. Did the Play case, to your understanding, 7 have anything to do with Google's Display Ad 8 business or its ad -- display ad tech? 9 A. I don't believe it did. 10 MR. HILLEGAS: Objection; form. 11 Q. Do you have an opinion on how any one of 12 the five custodians whose data was in the log 13 dataset, how their jobs compare to the remaining 136 14 legal hold employees in this case? 15 MR. HILLEGAS: Objection; form. 16 A. Can you clarify where the 136 came from? 17 Q. I'm taking 141 and subtracting 5. 18 A. Okay. So we're not -- for the 2002 (sic) 19 year. 20 Q. Yes. '22. 2022. 21 A. Yeah, sorry, 2022. 22 I understand that they were crossovers and 23 that's how Google was able to produce this dataset 24 consisting of -- solely consisting of these five 25 custodians because there was crossover.</p>	<p style="text-align: right;">Page 100</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. Yes. 3 Q. Did you search those depositions to -- 4 with words to try to figure out who these people 5 were, these five, in terms of what their jobs were? 6 A. It wouldn't affect my opinion so I didn't. 7 Q. In terms of affecting your opinion, can we 8 agree that someone whose job is actually in the 9 Display Ads business is likely to send more messages 10 on the topic of Display Ads than, say, someone who 11 is not? 12 MR. HILLEGAS: Objection; form. 13 A. Yes. 14 Q. Would the head of gaming, for example, 15 send more or less chat messages about display 16 ad tech than, say, a manager in Display Ads? 17 MR. HILLEGAS: Objection; form. 18 A. I think gaming may be a bad example 19 because I think gaming and Display Ads are tied 20 closely together. 21 But a different head of something, head of 22 Gmail -- there's ads in Gmail. 23 Q. Let me ask -- 24 A. Yeah, can you clarify with a different 25 example?</p>
<p style="text-align: right;">Page 99</p> <p>1 Q. And when you say "crossover," you mean 2 these people were custodians from whose files 3 documents were taken in both the Play case and this 4 Google ad tech case, right? 5 That's what you mean by "crossover"? 6 MR. HILLEGAS: Objection; form. 7 A. I understand that they are under 8 litigation hold in both. 9 Q. Okay. Back to my original question. 10 Do you know how the jobs -- the day-to-day 11 job of any of those five compare to the remaining 12 136? 13 MR. HILLEGAS: Objection; form. 14 A. No, I have no info about the 136 outside 15 of their names. 16 Q. Okay. Then let's stick to the five. 17 Do you know whether any of those five were 18 directly involved in Google's Display Ads business 19 or its ad tech? 20 MR. HILLEGAS: Objection; form. 21 A. No. My assignment was to analyze the 22 dataset, and this was the five custodians in their 23 entirety. 24 Q. But you had access to the deposition 25 database in this case to run searches, right?</p>	<p style="text-align: right;">Page 101</p> <p>1 Q. Sure. 2 Won't someone's actual job have an impact 3 on the average number of Display Ads-related chats 4 that person is going to send? 5 MR. HILLEGAS: Objection; form. 6 A. Yes. The domain of their work is going to 7 affect the domain of their messages and 8 communications. 9 Q. But I do want to revisit what you said a 10 second ago. You said that gaming and Display Ads 11 are tied closely together. 12 What is your basis for that? 13 MR. HILLEGAS: Objection; form. 14 MS. NAJAM: What's the objection? 15 MR. HILLEGAS: To the extent it 16 mischaracterizes. I just don't have the realtime. 17 MS. NAJAM: Oh, it's not working for 18 you? 19 MR. HILLEGAS: No, no, I just don't 20 see it on there, so to the extent that you didn't 21 repeat the question, I'll lodge it as something. 22 Q. So you said, I think gaming and Display 23 Ads are tied closely together. 24 Did I read that right from the realtime 25 transcript?</p>

26 (Pages 98 - 101)

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<p style="text-align: right;">Page 102</p> <p>1 A. Yes.</p> <p>2 Q. What's your basis for that?</p> <p>3 A. All the students I have that make free</p> <p>4 games on the Play Store include ads to make money on</p> <p>5 them.</p> <p>6 Q. Oh, okay. Do you know -- I mean but --</p> <p>7 you actually did extensive work to understand Google</p> <p>8 ad technology that's the subject of this lawsuit,</p> <p>9 right, sir?</p> <p>10 A. On the technology, yes.</p> <p>11 Q. Is it your understanding that what is at</p> <p>12 issue in this lawsuit includes the ads that show up</p> <p>13 in games?</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 A. I think DV360 may feed into that, but it</p> <p>16 depends on what year because the stack changed year</p> <p>17 by year, so it really depends what year we're</p> <p>18 talking about.</p> <p>19 Q. All right. To sum it up, it sounds like</p> <p>20 you are unsure whether the ads that actually pop up</p> <p>21 in games are even a part of this lawsuit?</p> <p>22 A. I don't believe they are.</p> <p>23 Q. Okay. Can you tell us the actual rate of</p> <p>24 preservation, that is, history on -- and by "rate,"</p> <p>25 I mean percentage -- for chat messages sent by any</p>	<p style="text-align: right;">Page 104</p> <p>1 A. Yes.</p> <p>2 Q. Do you know whether Sundar Pichai in 2022</p> <p>3 had any direct involvement in the Google Display Ads</p> <p>4 business?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 A. No, it doesn't impact my opinions.</p> <p>7 Q. Okay. So go back to my original question:</p> <p>8 Can you tell us the rate of preservation of chat</p> <p>9 messages for any person in the dataset or otherwise</p> <p>10 whose day-to-day job was in the Display Ads</p> <p>11 business?</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 A. No. The dataset only included these five,</p> <p>14 and all the information I had about them is their</p> <p>15 title.</p> <p>16 Q. And you could glean from their titles that</p> <p>17 none of them are Display Ads related, right?</p> <p>18 MR. HILLEGAS: Objection; form.</p> <p>19 Q. Other than, as you testified, the CEO who</p> <p>20 you think would influence the business?</p> <p>21 A. I would imagine [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>25 Q. Okay.</p>
<p style="text-align: right;">Page 103</p> <p>1 person whose day-to-day job was in the Display Ads</p> <p>2 business in 2022?</p> <p>3 A. No, I don't know any of these day-to-day</p> <p>4 jobs.</p> <p>5 Q. Okay. Is it possible that the rate of</p> <p>6 preservation of chat messages for someone whose</p> <p>7 day-to-day job did involve Display Ads that year was</p> <p>8 100 percent?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. Possible but unlikely.</p> <p>11 Q. What makes it unlikely to you?</p> <p>12 A. Because as I see from the log dataset,</p> <p>13 most messages were not retained.</p> <p>14 Q. But the log -- back to the log dataset, do</p> <p>15 you know if any of those five custodians actually</p> <p>16 had a day-to-day job that involved Google Display</p> <p>17 Ads?</p> <p>18 MR. HILLEGAS: Objection; form.</p> <p>19 A. Sundar Pichai is the CEO of Google, and</p> <p>20 he's included in this log dataset. I would assume</p> <p>21 he would have an influence on the Google Display</p> <p>22 Ads.</p> <p>23 Q. Okay. You assumed he would have an</p> <p>24 influence on that business because he's the CEO.</p> <p>25 Did I recap that accurately?</p>	<p style="text-align: right;">Page 105</p> <p>1 A. For my analysis, these were the five that</p> <p>2 were under litigation hold, and that's what I used</p> <p>3 for my formulas and calculations.</p> <p>4 Q. I get that that's the data you had and</p> <p>5 thus you used it.</p> <p>6 But my question is whether you can even</p> <p>7 glean from their titles that any of them had a</p> <p>8 day-to-day role with Display Ads?</p> <p>9 A. Not from the few words of their titles.</p> <p>10 Q. So I want to --</p> <p>11 MS. NAJAM: Unless the soup patrol</p> <p>12 sees soup.</p> <p>13 MR. HILLEGAS: I do not see soup</p> <p>14 patrol, so...</p> <p>15 Q. I want to make sure I understand</p> <p>16 everything -- let me ask you a first question.</p> <p>17 Explain to us everything you did, if</p> <p>18 anything, to confirm that the log dataset was a</p> <p>19 representative sample for the remaining custodians</p> <p>20 for you to extrapolate to the rest of those people</p> <p>21 for days beyond 68 days.</p> <p>22 A. Sure. So I first -- after we confirmed</p> <p>23 the ID to name, looked at the titles. These are</p> <p>24 mostly directors and above. Then as I started to</p> <p>25 map out the sent messages, I saw that [REDACTED] was</p>

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<p style="text-align: right;">Page 106</p> <p>1 very low. Not only was [REDACTED] message counts 2 extremely low compared to everyone else, but his 3 messaging was very sporadic. 4 Some weeks, well past the holidays, he 5 would send a few messages. And by "a few," I mean, 6 like, two. And that would be it. And he would be 7 quiet for another week, which is, according to some 8 testimony, fairly atypical. Then we had [REDACTED] 9 as you recall, had very high messaging count. 10 So with a outlier on the low side and an 11 outlier on the high side, including this low week, 12 week and a half at the end of December, I felt 13 confident that the numbers coming back were 14 conservative. 15 Q. And so my question wasn't quite what -- 16 about the conservatism. 17 The question is whether -- I want to know 18 everything you did to confirm that this sample was a 19 representative sample of the folks you're 20 extrapolating to, the remaining 136 custodians. 21 MR. HILLEGAS: Objection; form. 22 A. I had a lower bound and an upper bound. I 23 have people that are working in executive positions 24 and people that aren't working in executive 25 positions. Based upon that, this was a good</p> <p style="text-align: right;">Page 107</p> <p>1 representation of the rest of the custodians. 2 Q. So you began by saying that these were all 3 mainly directors or above. 4 Did I hear that right? 5 MR. HILLEGAS: Objection; form. 6 A. Yes. I'm honestly not certain within the 7 corporate ladder, so to speak, where [REDACTED] 8 falls. I know it's an IC role, but I'm not certain 9 what kind of IC role on what level. 10 Q. Okay. But your original point was these 11 are folks with higher level jobs than your average 12 employee; is that accurate? 13 A. These are not fresh employees or interns. 14 These would be people that are mid-career and above. 15 Q. Did you do any analysis to compare the 16 percentage of mid-career folks in your sample set 17 versus mid-career and above in the remaining set, 18 the other 136? 19 A. No. 20 Q. And then the second thing you listed was 21 you noted that [REDACTED] was very low. You said 22 according to some testimony, that was atypical. 23 Did I hear that right? 24 A. The testimony wasn't that [REDACTED] 25 count was a low. I was making a comparison that his</p>	<p style="text-align: right;">Page 108</p> <p>1 was low compared to other people based upon their 2 individual testimony. 3 As I recall, no one testified about 4 [REDACTED] -- 5 Q. Got it. 6 A. -- message counts. 7 Q. Did you determine how many folks in the 8 remaining 136 of the population send just as few 9 messages on average as [REDACTED]? 10 A. As I stated earlier on, as part of 11 verifying this dataset, I did do searches to find 12 custodians talking about how many messages they 13 received or sent. But as I stated earlier, most 14 were answering with a "I do not recall." 15 Q. And some testified that they use it as 16 infrequently as [REDACTED], right, sir? 17 MR. HILLEGAS: Objection; form. 18 A. Yes. 19 Q. So my question is: Did you try to figure 20 out how many [REDACTED] are there in the remaining 21 136? 22 A. I took many of the depositions with a 23 grain of salt simply because they said they used 24 chat for non-work purposes, but I found many chats 25 where they did not; they used it for work purposes.</p> <p style="text-align: right;">Page 109</p> <p>1 I did not count the number of [REDACTED]. I 2 used him as an outlier to offset [REDACTED] in the 3 dataset. 4 Q. Okay. When you say you took many 5 depositions with a grain of salt, the exceptions to 6 that would be the four you relied on in your October 7 report and the additional four you added in your 8 rely-on section in the December report, right? 9 A. As I recall, yes. 10 MR. HILLEGAS: Objection; form. 11 Q. Those eight deponents' testimony talking 12 about the frequency of their chat usage, that you're 13 relying on; is that true? 14 A. As I recall, they produced concrete 15 numbers that I could use to validate this dataset. 16 MS. NAJAM: Object as nonresponsive. 17 Q. I just want to make sure I understand how 18 you started in terms of searching with keywords in 19 the database and where you ended with listing eight 20 Google employees' testimony and relying on it. 21 A. I searched for usage. And if they didn't 22 have usage, I discounted their testimony because I 23 couldn't use it to validate this dataset. 24 Q. Wait, I'm sorry. So the folks that you 25 have listed as deposition testimony that you relied</p>
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<p style="text-align: right;">Page 110</p> <p>1 on, did you independently verify the numbers in</p> <p>2 terms of chat messages they testified they would</p> <p>3 send?</p> <p>4 Were you able to independently verify it</p> <p>5 somehow?</p> <p>6 MR. HILLEGAS: Objection --</p> <p>7 A. No.</p> <p>8 MR. HILLEGAS: -- form.</p> <p>9 THE WITNESS: Sorry.</p> <p>10 A. No, Google destroyed that data for me to</p> <p>11 verify it.</p> <p>12 MS. NAJAM: Okay. I'll object as</p> <p>13 nonresponsive to after "no."</p> <p>14 Q. You said Google destroyed the data.</p> <p>15 You're just talking about the fact that</p> <p>16 these debugging logs are on a rolling basis, right?</p> <p>17 A. Yes, that log was destroyed.</p> <p>18 Q. The log is not actually destroyed; it's</p> <p>19 just -- it shifts to the right as time passes,</p> <p>20 right, in terms of the metadata preserved?</p> <p>21 MR. HILLEGAS: Objection; form.</p> <p>22 A. The data is no longer there; it's</p> <p>23 overwritten.</p> <p>24 Q. The metadata?</p> <p>25 A. Correct.</p>	<p style="text-align: right;">Page 112</p> <p>1 Pichai, he was actually part of your log dataset,</p> <p>2 right?</p> <p>3 A. Correct.</p> <p>4 Q. So one thing you could have done was</p> <p>5 looked at his metadata for the 68 days and then</p> <p>6 compared that to his deposition testimony on the</p> <p>7 topic of chats, right, sir?</p> <p>8 MR. HILLEGAS: Objection; form.</p> <p>9 A. Yes.</p> <p>10 Q. You didn't -- did you review his</p> <p>11 deposition testimony from this case?</p> <p>12 A. I don't think I did.</p> <p>13 Q. Were you provided with his testimony from</p> <p>14 any case on this topic of his use of chat?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. As I recall, yes.</p> <p>17 Q. What testimony did you review?</p> <p>18 A. I don't recall.</p> <p>19 Q. So you can't tell us whether his testimony</p> <p>20 about his use of Google Chat was consistent or</p> <p>21 inconsistent with the log dataset that you reviewed?</p> <p>22 A. It wasn't part of my assignment.</p> <p>23 Q. So the answer is no, you're not here to</p> <p>24 tell us whether it was consistent or inconsistent,</p> <p>25 right?</p>
<p style="text-align: right;">Page 111</p> <p>1 Q. Okay. So I'm still not quite following.</p> <p>2 The depositions that you took with a grain</p> <p>3 of salt of the people who said they used chat for</p> <p>4 non-work purposes, explain to me all of your</p> <p>5 reasoning for taking those with a grain of salt.</p> <p>6 A. Because then when I searched in reveal, I</p> <p>7 found chats produced by them that were retained that</p> <p>8 were substantive work.</p> <p>9 Q. Who are these people that we're talking</p> <p>10 about?</p> <p>11 MR. HILLEGAS: Objection; form.</p> <p>12 A. I can't recall.</p> <p>13 Q. Were any of them in your log dataset?</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 A. Yes. I direct you to the supplemental</p> <p>16 report.</p> <p>17 Q. October?</p> <p>18 A. Yes. And Figure 10 and 11.</p> <p>19 Q. Pages, please?</p> <p>20 A. Oh, I'm sorry, 36 and 37.</p> <p>21 Q. Okay. So whose testimony -- I'm sorry.</p> <p>22 Whose testimony was inconsistent with what</p> <p>23 we're looking at on pages 36 and 37?</p> <p>24 A. I can't recall.</p> <p>25 Q. Okay. While we're on this topic, Sundar</p>	<p style="text-align: right;">Page 113</p> <p>1 A. No.</p> <p>2 Q. That's not right? Sorry, I may have asked</p> <p>3 it poorly.</p> <p>4 Do you -- did you undertake to compare</p> <p>5 Mr. Pichai's testimony about how he used chat?</p> <p>6 A. I do not intend to opine on his use of</p> <p>7 chat in his testimony versus what the chat log</p> <p>8 dataset shows.</p> <p>9 Q. Because that's not analysis that you did,</p> <p>10 correct?</p> <p>11 A. Correct.</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 Q. Back to your process for searching</p> <p>14 depositions.</p> <p>15 Did any employee, based on your searches,</p> <p>16 testify that they sent chats with history off while</p> <p>17 talking about ad tech or the Display Ads business?</p> <p>18 A. No.</p> <p>19 Q. Did you review any testimony where folks</p> <p>20 were asked whether they complied with litigation</p> <p>21 holds in this case?</p> <p>22 A. No.</p> <p>23 Q. Did you review any testimony about whether</p> <p>24 folks turned retention to "on" when discussing a</p> <p>25 topic that related to Display Ads?</p>

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<p style="text-align: right;">Page 114</p> <p>1 A. I recall several depositions -- maybe 2 [REDACTED], maybe [REDACTED] -- referring to the 3 February 8th, February 9th cutover where they could 4 no longer turn it off. 5 Q. Did you review any testimony about -- 6 sorry -- any testimony from a Google employee about 7 whether they did or did not turn history on or make 8 sure it was on when discussing Display Ads? 9 MR. HILLEGAS: Objection; form. 10 A. No. 11 Q. Okay. 12 A. It wouldn't have affected my opinion. 13 MS. NAJAM: I'll object to that after 14 "no" as nonresponsive. 15 Q. Let's switch gears. 16 Can you give me a definition of 17 "statistical significance"? 18 A. Something with P less than 05. 19 Q. And earlier you were unable to explain 20 what "P less than 05" meant. 21 Did you refresh yourself on the break? 22 Can you explain what that means? 23 A. It's just not something that I work with. 24 Q. Statistical significance is not something 25 that you work with?</p>	<p style="text-align: right;">Page 116</p> <p>1 A. There's no statistics involved because I 2 wasn't sampling. If I was sampling, if I was 3 getting an end number from a larger dataset, then it 4 would have mattered, and that -- once you get to a 5 bigger end number, this had no sampling. I was 6 using all the data provided to me. 7 Q. The data provided to you was a subset of 8 custodians and a subset of days, right? 9 A. It was the entirety of what was produced 10 by Google. 11 Q. I'll ask it a different way. 12 Out of the 141 custodians, you only had 13 data for five, right? 14 A. Correct. As I understand, the rest were 15 destroyed. 16 MS. NAJAM: Okay. And I'll object to 17 that as nonresponsive. 18 Q. Again, you're referring to the destruction 19 of something. 20 You're just talking about the fact that 21 these metadata logs are retained on a rolling basis, 22 right? 23 A. They're overwritten, correct. 24 Q. Okay. So I'm going to have to ask my 25 question again.</p>
<p style="text-align: right;">Page 115</p> <p>1 A. P 05. As I stated earlier, the only time 2 I really work with it is in -- where we have 3 multiple outputs. So we have an ReLU and those 4 ReLU's have independent probabilities. I think 5 computer science uses statistics more on the machine 6 learning side. 7 Q. And that would be a different application 8 of statistics than, for example, what we're doing 9 here, that is, extrapolating data from this log 10 dataset to a larger universe. Fair? 11 A. I mean -- 12 MR. HILLEGAS: Objection; form. 13 A. This is a simple averaging. I wouldn't 14 even put this in the wheelhouse of statistics. 15 Q. And the reason you say that is because you 16 took an average sent number of unretained per day 17 and you just multiplied it out? 18 A. I took the average of who was provided in 19 the dataset and extrapolated that out to the number 20 of custodians, whether that be the 141 or the 202 21 number that Malkiewicz sited, that is correct. 22 Q. So am I hearing you right to say that for 23 your opinions in this case, you did not think 24 statistical significance plays a role? 25 MR. HILLEGAS: Objection; form.</p>	<p style="text-align: right;">Page 117</p> <p>1 Out of the 141 custodians that were 2 subject to legal hold, you only had data for five, 3 correct? 4 MR. HILLEGAS: Objection; form. 5 A. That was all that was produced. 6 Q. And out of the 365 days in a year, you 7 only had data for 68 days, correct? 8 MR. HILLEGAS: Objection; form. 9 A. Yes. I want to clarify. My calculation I 10 used 365.25. 11 Q. To average the amount -- the length of a 12 year? 13 A. Yes. 14 Q. Given a leap year every four years? 15 A. That's right. 16 Q. All right. We're going to use 365 for 17 convenience if that's okay. 18 Now you don't say in either of your 19 reports or your declaration that this is a 20 statistically significant sample set to extrapolate 21 to the rest. 22 I think I'm hearing you today your opinion 23 is that this concept of statistical significance 24 just doesn't matter here; is that right? 25 MR. HILLEGAS: Objection; form.</p>

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<p style="text-align: right;">Page 118</p> <p>1 A. Correct.</p> <p>2 Q. But if we can do some math real quick.</p> <p>3 Do you have a calculator handy, like your</p> <p>4 phone, phone calculator?</p> <p>5 A. My phone is not in here.</p> <p>6 Q. Good. You followed your counsel's</p> <p>7 instruction.</p> <p>8 MS. NAJAM: Do y'all mind if I hand</p> <p>9 him mine or do you want to hand him yours?</p> <p>10 MR. HILLEGAS: I do not mind if you</p> <p>11 hand him your phone.</p> <p>12 Q. Okay. Here you go.</p> <p>13 A. An iPhone.</p> <p>14 Q. Okay. Multiplying the number of</p> <p>15 custodians whose data you had times the number of</p> <p>16 days that you had that data, that is 5 times 68.</p> <p>17 Can you confirm for me that's 340?</p> <p>18 A. That is correct.</p> <p>19 Q. And then multiplying the total number of</p> <p>20 custodians, assuming for these purposes it's 141,</p> <p>21 multiplying that by the total number of days in a</p> <p>22 year of 365, can you confirm for me that you get</p> <p>23 51,465?</p> <p>24 That is 141 times 365.</p> <p>25 A. I think we want to divide.</p>	<p style="text-align: right;">Page 120</p> <p>1 MR. HILLEGAS: Objection; form.</p> <p>2 A. Yes.</p> <p>3 Do you need your phone back?</p> <p>4 Q. Yes. Thank you.</p> <p>5 So can you explain, sir -- first of all,</p> <p>6 is it your opinion that your results, that is, your</p> <p>7 opinion that 1.5 million chats were sent with</p> <p>8 history off in a year by the employees on litigation</p> <p>9 hold or 2.8 million, that that is reliable and</p> <p>10 trustworthy even if the sample that you had is not</p> <p>11 statistically significant?</p> <p>12 A. I have seen no evidence to the contrary.</p> <p>13 Q. So is that a yes? Should we -- can we</p> <p>14 assume your results are reliable and trustworthy</p> <p>15 even if they are not statistically significant?</p> <p>16 MR. HILLEGAS: Objection; form.</p> <p>17 A. I have seen no evidence to the contrary.</p> <p>18 Q. I'm going to ask the question again.</p> <p>19 Should the Court conclude that your</p> <p>20 results are reliable and trustworthy even if they're</p> <p>21 not statistically significant?</p> <p>22 MR. HILLEGAS: Objection; form.</p> <p>23 A. Statistics isn't involved in this because</p> <p>24 there wasn't sampling, so my opinion is reliable.</p> <p>25 Q. And you believe your opinion is reliable</p>
<p style="text-align: right;">Page 119</p> <p>1 Q. Well, first I wanted to calculate days</p> <p>2 times individuals in the log dataset, and then I</p> <p>3 wanted to do days times custodians in the entire</p> <p>4 population.</p> <p>5 So, first, 5 custodians inside what you</p> <p>6 had, the log dataset, times 68 days, that's 340,</p> <p>7 right?</p> <p>8 A. Correct.</p> <p>9 Q. And then 141 custodians times 365 days.</p> <p>10 A. Okay. So not -- so a separate</p> <p>11 calculation.</p> <p>12 Q. Yes.</p> <p>13 A. 51,000.</p> <p>14 Q. 51,465?</p> <p>15 A. 465.</p> <p>16 Q. And then if you divide those two numbers,</p> <p>17 which I think you were jumping ahead, but we're</p> <p>18 lawyers, we can't do that.</p> <p>19 340 divided by 51,465. What percentage do</p> <p>20 you get?</p> <p>21 A. .66.</p> <p>22 Q. So in terms of the log dataset, can we</p> <p>23 agree that it is less than 1 percent of the</p> <p>24 population dataset that you're extrapolating it to,</p> <p>25 that is, 141 custodians for an entire year?</p>	<p style="text-align: right;">Page 121</p> <p>1 even if it represents less than 1 percent of the</p> <p>2 total data -- sorry, total population of chats sent</p> <p>3 by all the employees under litigation hold for a</p> <p>4 year?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 A. I have seen no evidence to the contrary.</p> <p>7 Q. Can you cite to us any study or industry</p> <p>8 publication or authority that would support that if</p> <p>9 your sample set constitutes less than 1 percent of</p> <p>10 your total population, it's fine to draw conclusions</p> <p>11 from that less than 1 percent sample set that apply</p> <p>12 to the rest of the population?</p> <p>13 MR. HILLEGAS: Objection; form.</p> <p>14 A. This is how most polling is conducted.</p> <p>15 Q. Have you done polling before?</p> <p>16 A. Yes.</p> <p>17 Q. What kind of polling?</p> <p>18 A. Political polling.</p> <p>19 Q. And how -- tell me, what was your -- what</p> <p>20 was your statistical basis in terms of making sure</p> <p>21 that your sample set was going to be reflective of</p> <p>22 the rest of the population within some confidence</p> <p>23 interval?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. It was vendor software. I didn't write</p>

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<p style="text-align: right;">Page 122</p> <p>1 the vendor software.</p> <p>2 Q. So are you able to tell us how you made</p> <p>3 sure that the folks being called were, in fact,</p> <p>4 representative of the general population of voters?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 A. The demographic software did that.</p> <p>7 Q. Okay. So --</p> <p>8 MR. HILLEGAS: Counsel, lunch has</p> <p>9 appeared outside.</p> <p>10 MS. NAJAM: Okay. Thanks. I'll wrap</p> <p>11 this up soon.</p> <p>12 Q. I'm sorry. So where we get off on this</p> <p>13 political polling, are you telling me that you</p> <p>14 participated in some political polling where</p> <p>15 somebody decided that sampling less than 1 percent</p> <p>16 of the population would be an accurate measure of</p> <p>17 the remaining population?</p> <p>18 A. So if we take 180 million voters in the</p> <p>19 U.S., what is -- can I borrow your calculator?</p> <p>20 Q. Yes.</p> <p>21 A. What is our number? .66, I think, was the</p> <p>22 number we arrived at times 180 million. So that</p> <p>23 leaves 118,000 people that have to be polled to</p> <p>24 determine an NBC news poll for president or</p> <p>25 political party. Most polling is conducted with a</p>	<p style="text-align: right;">Page 124</p> <p>1 Q. Are we talking about, like, auditing,</p> <p>2 like, making sure things are working like they're</p> <p>3 supposed to?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. No, those would back-feed and actually</p> <p>6 drive the slam, which is how vehicles' robots drive.</p> <p>7 Q. I'm not following. Tell me how data was</p> <p>8 taken from some percentage that was less than</p> <p>9 1 percent and then extrapolated to be data</p> <p>10 applicable to the remaining population.</p> <p>11 A. So you have a bunch of sensors on a</p> <p>12 vehicle. Most of the vehicles that we had that we</p> <p>13 had set up -- we had 12 cameras. We then had maybe</p> <p>14 8 ultrasonics, which are like what you would call</p> <p>15 parking sensors. They won't work within, like,</p> <p>16 6 feet or less. And we had LiDAR front and back,</p> <p>17 because it's a dome on top, along with radar, also</p> <p>18 GPS and IMU unit.</p> <p>19 Each of those were sampling at less than</p> <p>20 1 percent to get a picture of the world. And then</p> <p>21 they average that over time because sensors are</p> <p>22 faulty, there's noise in the system.</p> <p>23 So that less than 1 percent sampling then</p> <p>24 fuses together to produce a picture of the outside</p> <p>25 world because we can't just tell a computer "you're</p>
<p style="text-align: right;">Page 123</p> <p>1 sample size of 800 to 1,200 as I recall.</p> <p>2 Q. What are you recalling this from? What is</p> <p>3 your experience with polling?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. I am not an expert in polling; I'm a</p> <p>6 layperson.</p> <p>7 Q. Okay. So besides your layperson</p> <p>8 experience with political polling, can you provide</p> <p>9 any instances where you were actually, like,</p> <p>10 professionally involved where -- like in your work</p> <p>11 or your research or at the university where you were</p> <p>12 part of a study where less than 1 percent of the</p> <p>13 population was sampled to draw conclusions about the</p> <p>14 remaining population?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. Yes.</p> <p>17 Q. What is that?</p> <p>18 A. I participated on several projects</p> <p>19 regarding self-driving vehicles and sampling from</p> <p>20 sensors there across different fusions would be less</p> <p>21 than 1 percent.</p> <p>22 Q. Sampling for what purpose?</p> <p>23 A. Oh, camera, LiDAR, any sort of ultrasonics</p> <p>24 or GPS. Sampling happens a lot less than 1 percent</p> <p>25 there.</p>	<p style="text-align: right;">Page 125</p> <p>1 on the road, you're on the sidewalk"; it has to know</p> <p>2 that.</p> <p>3 Q. Okay. Besides this example you have given</p> <p>4 about self-driving vehicle cameras to get a picture</p> <p>5 of the world for the car to operate, are there any</p> <p>6 other examples you can give us where less than</p> <p>7 1 percent was enough?</p> <p>8 A. Normally sampling telemetry on high TPS,</p> <p>9 you're going to look for a .1 to 1 percent sampling</p> <p>10 rate.</p> <p>11 Q. I'm sorry, I don't know what telemetry --</p> <p>12 A. Sorry. Sorry, sorry, sorry.</p> <p>13 MR. HILLEGAS: Please let her finish</p> <p>14 asking her question before you respond.</p> <p>15 Q. What is "telemetry" and what is "high</p> <p>16 TPS"?</p> <p>17 A. So telemetry is -- any time we have a</p> <p>18 request coming in, we can moniker that request. And</p> <p>19 I'm trying to think of an analogy and it's not</p> <p>20 coming to me.</p> <p>21 You're at a trading desk -- you're at the</p> <p>22 NASDAQ floor doing trades. Millions of volumes of</p> <p>23 trades are coming in. You can't look at every</p> <p>24 single one. You can't -- there's no system that can</p> <p>25 really handle it.</p>

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<p style="text-align: right;">Page 126</p> <p>1 So, instead, your telemetry system is</p> <p>2 going to sample usually 1 percent or less and verify</p> <p>3 are these meeting SLAs, service level agreements,</p> <p>4 are they timing correctly, do they actually return</p> <p>5 with proper results, and are they consumable by the</p> <p>6 end party. So telemetry can sort of trace things</p> <p>7 down.</p> <p>8 I am talking at a very high level about</p> <p>9 this.</p> <p>10 But you can add more to telemetry to</p> <p>11 increase or decrease what systems it touched. So</p> <p>12 you can grab samples from more systems.</p> <p>13 Q. Okay. I understand.</p> <p>14 MS. NAJAM: We can break for lunch</p> <p>15 now.</p> <p>16 THE VIDEOGRAPHER: Off the record,</p> <p>17 12:32.</p> <p>18 (Recess 12:32 p.m. to 1:26 p.m.)</p> <p>19 THE VIDEOGRAPHER: We're on the</p> <p>20 record. The time is 1:26.</p> <p>21 Q. Dr. Hochstetler, before we took our lunch</p> <p>22 break, you were giving me some examples where a</p> <p>23 sample sizes were less than 1 percent.</p> <p>24 Do you recall that generally?</p> <p>25 A. Yes.</p>	<p style="text-align: right;">Page 128</p> <p>1 on autonomous vehicles, self-driving cars?</p> <p>2 A. Yes.</p> <p>3 Q. The sensors that were being sampled, were</p> <p>4 they sampled at random?</p> <p>5 A. Yes and no. You would have random</p> <p>6 sampling and it also have steady-state sampling,</p> <p>7 which would be usually by hertz, so many times a</p> <p>8 second. But you would correlate those both together</p> <p>9 to make sure you had an accurate measurement.</p> <p>10 Q. So the random one with the steady-state</p> <p>11 one?</p> <p>12 A. Yes.</p> <p>13 Q. And, sorry, I meant to ask you this</p> <p>14 earlier.</p> <p>15 The work that you were describing, was</p> <p>16 that in connection with your dissertation?</p> <p>17 MR. HILLEGAS: Objection; form.</p> <p>18 Q. The sampling of the sensors for the</p> <p>19 self-driving vehicles?</p> <p>20 A. Not really. My dissertation was a level</p> <p>21 above that. But I was in the lab for self-driving</p> <p>22 and autonomous vehicles, so I was one of the</p> <p>23 laboratory scientists, for better term, that would</p> <p>24 be doing work on those.</p> <p>25 Q. Did you ever do any work for Waymo?</p>
<p style="text-align: right;">Page 127</p> <p>1 Q. One that you gave had to do with your</p> <p>2 involvement with some -- I think you said some</p> <p>3 software that was used to take political polls; is</p> <p>4 that right?</p> <p>5 A. That's correct.</p> <p>6 Q. Did that software ensure that it was using</p> <p>7 a random sample or do you not know?</p> <p>8 MR. HILLEGAS: Objection; form.</p> <p>9 A. I don't know.</p> <p>10 Q. Given your -- I think you called it</p> <p>11 personal experience with polls, the samples that are</p> <p>12 taken, they endeavor to be random, right?</p> <p>13 MR. HILLEGAS: Objection; form.</p> <p>14 A. There's different kinds of random. I</p> <p>15 think in particular they would segment out a</p> <p>16 specific part of a demographic, like ages 18 to 35,</p> <p>17 ages 35 to 45. So I didn't know what demographic</p> <p>18 was being sampled. I don't believe it was truly</p> <p>19 rolling the dice random.</p> <p>20 Q. Whatever the demographic chosen to be</p> <p>21 analyzed was, within that demographic, the samples</p> <p>22 would have been random, right?</p> <p>23 A. Yes.</p> <p>24 Q. And then I wanted to ask you a little bit</p> <p>25 more about the example you gave regarding your work</p>	<p style="text-align: right;">Page 129</p> <p>1 A. No.</p> <p>2 Q. Back to the stuff we're talking about in</p> <p>3 this case, the log dataset, can we agree that was</p> <p>4 not a random sample?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 A. I'm not certain if it was.</p> <p>7 Q. You're not certain one way or the other is</p> <p>8 your point?</p> <p>9 A. I am not certain if it was a random</p> <p>10 dataset.</p> <p>11 Q. Well, we covered earlier that the reason</p> <p>12 that log dataset in particular was produced at the</p> <p>13 plaintiffs in this case is because those five</p> <p>14 custodians overlapped two different cases.</p> <p>15 Do you recall that?</p> <p>16 A. Yes.</p> <p>17 Q. That's not a random sample, is it?</p> <p>18 MR. HILLEGAS: Objection; form.</p> <p>19 A. I had no ability to sample, so it couldn't</p> <p>20 be a random sample.</p> <p>21 Q. Okay. So let's talk about the term</p> <p>22 "sample of convenience," which you addressed in your</p> <p>23 December report.</p> <p>24 To recap, am I right that your opinion is</p> <p>25 the log dataset is not a sample of convenience as</p>

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<p>Page 130</p> <p>1 you understand that term?</p> <p>2 A. What paragraph am I referring to?</p> <p>3 Q. You can go to pages 11 to 12,</p> <p>4 paragraph 26.</p> <p>5 A. I'm there.</p> <p>6 Q. Okay. So I'll repeat my question.</p> <p>7 Am I hearing you correctly that you don't</p> <p>8 believe that you were working with a sample of</p> <p>9 convenience?</p> <p>10 A. That is correct.</p> <p>11 Q. And then I notice that in Footnote 34,</p> <p>12 your basis for that is an article about sociology</p> <p>13 experiments; is that right?</p> <p>14 A. Yes.</p> <p>15 Q. The article is about when a researcher</p> <p>16 chooses human subjects based on who he or she could</p> <p>17 conveniently rope in, right?</p> <p>18 A. As I recall, yes.</p> <p>19 Q. And is that the sole basis that you don't</p> <p>20 think you were working with a sample of convenience,</p> <p>21 that is, you didn't rope conveniently anybody in?</p> <p>22 A. That's correct.</p> <p>23 Q. Putting aside whether it's Google's or</p> <p>24 someone else's fault that the log dataset only</p> <p>25 covers five people, only covers 68 days, can we</p>	<p>Page 132</p> <p>1 A. When we have a -- when your Z-test error</p> <p>2 rate is too high.</p> <p>3 Q. Is that the -- is that all you recollect?</p> <p>4 A. Yes.</p> <p>5 Q. And then can you tell us the relationship</p> <p>6 between t-scores and p-values?</p> <p>7 MR. HILLEGAS: Objection; form.</p> <p>8 A. I can't recall.</p> <p>9 Q. Can you tell us the difference between the</p> <p>10 formula for calculating a standard deviation for</p> <p>11 your sample set versus the formula for calculating</p> <p>12 the standard deviation for your entire population?</p> <p>13 A. If I had the entire population, I could</p> <p>14 definitely do that.</p> <p>15 Q. What is the difference between the</p> <p>16 formulas used for calculating the standard deviation</p> <p>17 for your sample set versus your entire population?</p> <p>18 A. The formulas are the same; I just don't</p> <p>19 have the entire population. It was rolled. It was</p> <p>20 destroyed, overwritten.</p> <p>21 Q. Can you tell us the formula for</p> <p>22 calculating a margin of error?</p> <p>23 A. Not off the top of my head.</p> <p>24 Q. Is it the same or different from your</p> <p>25 Z-score?</p>
<p>Page 131</p> <p>1 agree that whose fault it is does not change whether</p> <p>2 a sample is truly representative of the entire</p> <p>3 population?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. Correct.</p> <p>6 Q. Did you, in connection with your work on</p> <p>7 this case, look for any surveys or studies about the</p> <p>8 use of ephemeral messaging amongst tech employees in</p> <p>9 any time frame?</p> <p>10 MR. HILLEGAS: Objection; form.</p> <p>11 A. No.</p> <p>12 Q. Can you -- are you able to tell us what</p> <p>13 the formula is for statistics in calculating a</p> <p>14 Z-score?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. For Z-test?</p> <p>17 Q. Yes.</p> <p>18 A. And not G-squared?</p> <p>19 Q. No, Z.</p> <p>20 A. Not off the top of my head.</p> <p>21 Q. Do you know what a Type I error is in</p> <p>22 statistical hypothesis testing?</p> <p>23 MR. HILLEGAS: Objection; form.</p> <p>24 A. I vaguely recollect it.</p> <p>25 Q. What is it?</p>	<p>Page 133</p> <p>1 A. I think it may be the same.</p> <p>2 Q. Let me ask you this: Did you use any of</p> <p>3 these concepts or statistical tools to arrive at</p> <p>4 the -- your ultimate opinion in this case about the</p> <p>5 number of sent chat messages per year with history</p> <p>6 off?</p> <p>7 A. No. It was not necessary.</p> <p>8 Q. So I want to talk about some of the</p> <p>9 deposition testimony that you did rely on.</p> <p>10 Let's go to your October report, which is</p> <p>11 Exhibit 1, page 23.</p> <p>12 In Footnote 89, you see that you cite</p> <p>13 three Google employee transcripts for the</p> <p>14 proposition that the number of chat messages sent</p> <p>15 and received by the five custodians in your log</p> <p>16 dataset isn't uncommonly high and are much lower</p> <p>17 than other employees on hold?</p> <p>18 Do you see that?</p> <p>19 A. Yes.</p> <p>20 Q. And the three employees that you're citing</p> <p>21 for that proposition are [REDACTED], [REDACTED], and Korula,</p> <p>22 correct?</p> <p>23 A. Correct.</p> <p>24 Q. Sir, are these examples of instances where</p> <p>25 you ran a search term across a database and then</p>

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<p>Page 134</p> <p>1 that's how you located relevant testimony?</p> <p>2 A. Yes.</p> <p>3 Q. Did you only review the portions of the</p> <p>4 transcripts where your search terms hit or did you</p> <p>5 also review other portions?</p> <p>6 A. It depends on the testimony.</p> <p>7 Q. Okay. So then let's just take them one by</p> <p>8 one. I'm going to start with Korula. It's the last</p> <p>9 one you cite.</p> <p>10 You cite him for saying he maybe sent or</p> <p>11 received 500 individual messages a day, right?</p> <p>12 A. Correct.</p> <p>13 Q. Didn't Mr. Korula also testify that this</p> <p>14 was not a constant number and that it varied</p> <p>15 depending on his position at the time?</p> <p>16 A. That's correct.</p> <p>17 Q. But you didn't -- you didn't note that in</p> <p>18 your report, right?</p> <p>19 A. I did not.</p> <p>20 Q. And testifying that 500 a day isn't</p> <p>21 constant, it varies, that is much different, isn't</p> <p>22 it, than saying this employee sent hundreds of</p> <p>23 messages a day?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. That is different.</p>	<p>Page 136</p> <p>1 MR. HILLEGAS: Objection; form.</p> <p>2 A. As I stated earlier, I was using that as a</p> <p>3 check to ensure the numbers were good. If [REDACTED] or</p> <p>4 [REDACTED] stated they sent a thousand a day and I</p> <p>5 didn't see that kind of usage in the actual log</p> <p>6 dataset, I would have known something is wrong.</p> <p>7 There's a spot there where either my analysis is</p> <p>8 wrong or the data is wrong. So I was using them as</p> <p>9 a check.</p> <p>10 Now, each one of these five custodians has</p> <p>11 a variable number. They are not constantly sending</p> <p>12 a hundred or 500 per day. In fact, I don't even</p> <p>13 think -- even [REDACTED] doesn't get as high as 500 a</p> <p>14 day.</p> <p>15 MS. NAJAM: I'll object as</p> <p>16 nonresponsive.</p> <p>17 Q. To recap [REDACTED], you cite him for</p> <p>18 saying that on some days, he has hundreds of chats.</p> <p>19 But you did not mention in your report that he also</p> <p>20 testified that, well, the average per day is</p> <p>21 actually highly variable. Correct?</p> <p>22 MR. HILLEGAS: Objection; form.</p> <p>23 A. I do not cite that.</p> <p>24 Q. Then similar question for [REDACTED],</p> <p>25 that deponent you cite for saying it -- he could</p>
<p>Page 135</p> <p>1 Q. And then a similar question for [REDACTED]</p> <p>2 there. You cite him for saying that on some days,</p> <p>3 he has hundreds of chats, right, sir?</p> <p>4 A. That's correct.</p> <p>5 Q. By the way, did you take that to mean</p> <p>6 messages as opposed to conversations or groups?</p> <p>7 A. Yes. Many of the employees interchanged</p> <p>8 them between each other.</p> <p>9 Q. Okay. But [REDACTED] also testified that</p> <p>10 the average number of chat messages he would send on</p> <p>11 any given day was highly variable, didn't he?</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 A. I believe that's correct.</p> <p>14 Q. And that, too, is different than saying, I</p> <p>15 sent hundreds of chats every day.</p> <p>16 MR. HILLEGAS: Objection; form.</p> <p>17 Q. Right?</p> <p>18 MR. HILLEGAS: Object to form.</p> <p>19 A. Yes. And I used that as a basis to</p> <p>20 validate my data.</p> <p>21 Q. But my point, sir, is when an employee</p> <p>22 says, you know, the number of chats I send on a</p> <p>23 daily basis is highly variable, highly variable,</p> <p>24 that is very different from citing an employee to</p> <p>25 say, I send hundreds a day. Right?</p>	<p>Page 137</p> <p>1 have easily sent over a hundred messages per day.</p> <p>2 Do you see that?</p> <p>3 A. Yes.</p> <p>4 Q. Didn't [REDACTED] also say that his actual</p> <p>5 numbers depending on the day, including what the</p> <p>6 discussion of the day was?</p> <p>7 MR. HILLEGAS: Objection; form.</p> <p>8 A. Yes. That was expected.</p> <p>9 Q. But that is what he testified, right?</p> <p>10 A. That's correct.</p> <p>11 Q. So just to be clear, for Footnote 89, the</p> <p>12 testimony you are citing there showed that there was</p> <p>13 a wide variation in the daily amount of chat</p> <p>14 messages sent even for a particular employee, right?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. Yes, that was expected.</p> <p>17 Q. And, in fact, there was also a wide</p> <p>18 variation in the message volume amongst the five</p> <p>19 employees and the log dataset, correct?</p> <p>20 A. That is correct.</p> <p>21 Q. And we talked about your lower and your</p> <p>22 upper, [REDACTED] sent 244 whereas [REDACTED]</p> <p>23 sent over 5,000 total in the log period, right?</p> <p>24 A. That's correct.</p> <p>25 Q. Sorry, I don't know why I left out</p>

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<p style="text-align: right;">Page 138</p> <p>1 [REDACTED] at the low end of 36 total, right?</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 A. That's correct.</p> <p>4 Q. Given the wide variation and the number of</p> <p>5 chats sent by just those five during the log period,</p> <p>6 can we agree that it's likely there's also wide</p> <p>7 variation in message volume among the remaining 136</p> <p>8 custodians?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. I have seen no evidence to the contrary.</p> <p>11 Q. So to remove the negative from the answer,</p> <p>12 given what you saw amongst the five, is it likely</p> <p>13 that there's a wide variation in number of chats</p> <p>14 sent per day among the remaining 136?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. I have seen no such evidence.</p> <p>17 Q. You have seen no evidence of wide</p> <p>18 variation?</p> <p>19 A. Correct.</p> <p>20 Q. You have actually not seen the chat</p> <p>21 metadata logs at all for those remaining 136,</p> <p>22 correct?</p> <p>23 A. That is correct.</p> <p>24 Q. So I want to go back to the metadata that</p> <p>25 you saw.</p>	<p style="text-align: right;">Page 140</p> <p>1 A. I have seen no evidence. All I had was</p> <p>2 the five and the dataset to go from. We have highs</p> <p>3 and lows, which averaged out.</p> <p>4 Q. Sir, in this case you are taking an</p> <p>5 average messages sent per day that you derive from</p> <p>6 the five and you're extrapolating it for the other</p> <p>7 136, right?</p> <p>8 A. That is correct.</p> <p>9 Q. And it is your expert opinion that it's</p> <p>10 perfectly reasonable to do that, right?</p> <p>11 A. That is correct.</p> <p>12 Q. So what I'm asking is: Is it also</p> <p>13 perfectly reasonable to extrapolate that if there</p> <p>14 was wide variation in number of messages sent for</p> <p>15 these five, there's going to be wide variation in</p> <p>16 the rest of your population, that 136?</p> <p>17 A. It's possible but highly unlikely.</p> <p>18 Q. What makes you think there's not going to</p> <p>19 be wide variation, just as wide as you found in the</p> <p>20 sample set, amongst the remaining 136?</p> <p>21 A. For two reasons. The sample set I</p> <p>22 currently have that was provided in its entirety</p> <p>23 already had highs and lows. So we already saw</p> <p>24 variation within that. I would expect that to be</p> <p>25 representative of the larger dataset.</p>
<p style="text-align: right;">Page 139</p> <p>1 There was wide variation in the number of</p> <p>2 messages those five folks sent per day, right?</p> <p>3 MR. HILLEGAS: Objection; form.</p> <p>4 A. There was wide variation in the number of</p> <p>5 messages they testified they sent.</p> <p>6 Q. I'm talking about the five custodians in</p> <p>7 your log dataset.</p> <p>8 A. Sorry, I saw the 136. I thought that's</p> <p>9 what you were referring to.</p> <p>10 Yes, there's wide variation in this</p> <p>11 dataset.</p> <p>12 Q. Among the five?</p> <p>13 A. That's correct.</p> <p>14 Q. Isn't it likely there's also wide</p> <p>15 variation amongst the remaining 136 whose metadata</p> <p>16 you don't have?</p> <p>17 MR. HILLEGAS: Objection; form.</p> <p>18 A. So when you say "wide variation," you are</p> <p>19 comparing it to the wide variation inside the</p> <p>20 dataset?</p> <p>21 Q. I'm just using the phrase as you used it.</p> <p>22 You used it in talking about the five within the</p> <p>23 dataset.</p> <p>24 So I'm asking: Can we also expect to see</p> <p>25 wide variation amongst the remaining 136?</p>	<p style="text-align: right;">Page 141</p> <p>1 Additionally, in Mr. Malkiewicz' response,</p> <p>2 he provided no evidence to the contrary.</p> <p>3 Q. We may be missing each other. Let's start</p> <p>4 from the beginning.</p> <p>5 When you opine that there's a wide</p> <p>6 variation in message volume amongst the five</p> <p>7 employees in the log dataset, your point is there's</p> <p>8 a big gap between [REDACTED] and [REDACTED],</p> <p>9 right?</p> <p>10 A. That's correct.</p> <p>11 Q. And even amongst the folks in between</p> <p>12 there, right?</p> <p>13 A. Yes. And not only from Table 7 the volume</p> <p>14 but also the average number of days, so the actual</p> <p>15 activity and usage.</p> <p>16 Q. Okay. But let's just stick to your</p> <p>17 opinion about wide variation in message volume.</p> <p>18 When you say "message volume," you mean</p> <p>19 the number of chats they sent in the log period,</p> <p>20 right?</p> <p>21 A. Yes. Yes.</p> <p>22 Q. Or you can average it per day and it's the</p> <p>23 same result, right?</p> <p>24 A. Correct.</p> <p>25 Q. Okay. Explain to me why we cannot also</p>

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<p>Page 142</p> <p>1 assume that there will be wide variation, the way 2 you use it, in message volume amongst the other 136 3 A. Variation that will be different than 4 these five? 5 Q. Just wide variation amongst the 136, not 6 these five. 7 A. So not compared to these one -- 8 Q. Correct. 9 A. Yes. 10 Q. So in your reply report, the December 11 report which is marked as Exhibit 2, let's -- we 12 already looked at the end of your report that you 13 listed some additional depositions of Google's 14 employees. 15 Do you recall that? 16 A. Yes. 17 Q. They're listed on page 26 of your reply 18 report. 19 A. I'm there. 20 Q. And obviously the first one, [REDACTED], 21 that's not -- that was a -- what was called a 22 30(b)(6) deposition, that is, a deposition on behalf 23 of the company on certain topics; is that right? 24 A. Yes. 25 Q. Okay. So I want to focus on the five you</p>	<p>Page 144</p> <p>1 whose testimony you're citing here in support of the 2 generalization that employees use chats just as much 3 as email, right? 4 A. Yes. 5 Q. I'm handing you what I'll mark as 6 Exhibit 6. It's an excerpt of [REDACTED] 7 deposition. 8 (Exhibit 6 marked.) 9 MS. NAJAM: Please pass the others 10 down. 11 Q. And you cite page/line 74:11 to 16, do you 12 see that, in your -- 13 A. Yes. 14 Q. Sorry. 15 -- in your report? 16 A. Yes. 17 Q. Okay. So I have highlighted that on 18 Exhibit 6 for you. 19 And what she says is she was asked: On 20 some days do you send more chats than emails? 21 And she says: It's possible. 22 So, Dr. Hochstetler, is that the testimony 23 you meant to cite here? 24 A. 11 to 16? 25 Q. Yes.</p>
<p>Page 143</p> <p>1 have listed below there, like Google employees who 2 were giving their testimony about their personal 3 practices. 4 The only thing you are relying on these 5 five, that is, Jayaram, Korula, [REDACTED], [REDACTED], 6 and [REDACTED] is for the proposition that employees 7 use chat just as much as email, right? 8 A. Yes. 9 Q. Okay. And so if we turn to page 23 of 10 that same report, Footnote 91, you have some pages 11 and lines cited there for each of these depositions. 12 Do you see that? Footnote 91. 13 A. Oh, yes. 14 Q. And is your point that what these folks 15 said on those pages and lines supports your 16 assumption that employees use chat just as much as 17 email? 18 A. Yes. 19 Q. Are you sure that is, in fact, what these 20 cited pages and lines say? 21 MR. HILLEGAS: Objection; form. 22 A. As I recall. 23 Q. Okay. So let's take [REDACTED] as an 24 example. 25 And just to be clear, that is someone</p>	<p>Page 145</p> <p>1 A. Yes. 2 Q. Okay. That's just an employee saying I 3 may have sent some more chats than emails on some 4 days, right? 5 A. That's correct. 6 Q. Let's look at the next one that you 7 cited -- sorry, not the next one, but you also cited 8 [REDACTED] I'm probably butchering that name. 9 I'm going to mark that as Exhibit 7. 10 Before we look at that, Dr. Hochstetler, 11 saying, well, I may have sent more chats than emails 12 on some days, that is different than an employee 13 saying, I use them equally -- 14 MR. HILLEGAS: Objection; form. 15 Q. -- right? 16 A. I took it to mean it's possible. 17 Q. Okay. But in your reply report, your 18 opinion is -- I'm reading from paragraph 59, 19 "Despite Google's employees testifying that they 20 used chat at least as often as email," that's -- 21 that's what you put in this report, right? 22 A. That is correct. 23 Q. So what we just saw with [REDACTED] is 24 all she said is it's possible on some days, right -- 25 MR. HILLEGAS: Objection; form.</p>

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<p>1 Q. -- which is different?</p> <p>2 A. She stated --</p> <p>3 MR. HILLEGAS: Same objection.</p> <p>4 A. -- it's possible.</p> <p>5 Q. So [REDACTED] deposition, you are citing</p> <p>6 at page/lines 79:21 to 80:12.</p> <p>7 Do you see that in your Footnote?</p> <p>8 A. That is correct.</p> <p>9 (Exhibit 7 marked.)</p> <p>10 Q. Okay. So let's see on Exhibit 7 what</p> <p>11 those pages and lines say.</p> <p>12 It starts with the witness saying: No.</p> <p>13 What I mean is I haven't counted up the number of</p> <p>14 types I've sent an email in a day and counted up the</p> <p>15 number of times I've sent a chat in a day.</p> <p>16 It doesn't say anything about the</p> <p>17 magnitude of the count. All I know -- I don't know</p> <p>18 whether I use chat more than email is really the</p> <p>19 answer to your question because I haven't really</p> <p>20 looked at that.</p> <p>21 I use email frequently. I use chat</p> <p>22 frequently. I don't know which is more.</p> <p>23 Did I read that right?</p> <p>24 A. That is correct.</p> <p>25 Q. So this testimony that you're citing</p>	<p>1 topic of whether they really use chat as much as</p> <p>2 email?</p> <p>3 MR. HILLEGAS: Objection; form.</p> <p>4 A. I wouldn't construct that as liberal use.</p> <p>5 Q. Okay. So the two examples we saw, you</p> <p>6 think you cited them accurately in support of your</p> <p>7 proposition here that employees used -- employees</p> <p>8 used chat just as much as email?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. Yes.</p> <p>11 Q. And I take it the way -- your view of</p> <p>12 citing deposition testimony in support of an</p> <p>13 opinion, is that how you approach the rest of your</p> <p>14 work in this -- as it relates to chat logs?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 Q. That was a bad question. Let me rephrase</p> <p>17 it.</p> <p>18 When you went searching through the</p> <p>19 database to find folks' testimony on their use of</p> <p>20 Google Chats, are the two examples we just looked</p> <p>21 at, [REDACTED] and [REDACTED], are they representative of</p> <p>22 how you approached that task for other parts of your</p> <p>23 work?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. They are representative in the sense that</p>
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<p>1 actually has an employee saying, you know, I don't</p> <p>2 know which one I use more, right?</p> <p>3 A. Correct. They followed with: I use email</p> <p>4 frequently. I use chat frequently. I don't know</p> <p>5 which is more.</p> <p>6 Q. Sir, this is not testimony of equal use of</p> <p>7 chats and email, is it?</p> <p>8 MR. HILLEGAS: Objection; form.</p> <p>9 A. I took it to mean approximately equal.</p> <p>10 Q. You took [REDACTED] testimony that I</p> <p>11 just read to mean that this employee uses chat and</p> <p>12 email equally?</p> <p>13 A. Approximately.</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 A. Approximately equally.</p> <p>16 Q. Approximately.</p> <p>17 Did you take similar liberties with other</p> <p>18 testimony that you cited for this proposition?</p> <p>19 MR. HILLEGAS: Objection; form.</p> <p>20 A. I'll read back from the [REDACTED]</p> <p>21 deposition the same lines: On some days do you send</p> <p>22 more chats than emails? It's possible.</p> <p>23 Q. Okay. Besides [REDACTED], which I showed</p> <p>24 you, and [REDACTED], which I've showed you, did you also</p> <p>25 liberally construe other folks' testimony on this</p>	<p>1 I used the same keyword searches to find the same</p> <p>2 relevant sections of testimony.</p> <p>3 Q. Okay. So one of them -- [REDACTED] said, I</p> <p>4 don't know which one I use more.</p> <p>5 And then you cited him as saying employees</p> <p>6 used both equally, right?</p> <p>7 A. I took to mean that he could not quantify</p> <p>8 and "used email frequently and I used chat</p> <p>9 frequently, I don't know which is more" to mean</p> <p>10 about approximately equal.</p> <p>11 Q. Okay. Understood.</p> <p>12 Viewing all the deposition testimony that</p> <p>13 you reviewed, whether you relied on it and put it in</p> <p>14 your reports or not, are you able to testify under</p> <p>15 oath that all of the employees subject to a</p> <p>16 litigation hold in this case had similar chat</p> <p>17 behavior?</p> <p>18 MR. HILLEGAS: Objection; form.</p> <p>19 A. No. The only data I have is from the five</p> <p>20 custodians in the dataset.</p> <p>21 Q. But you said you went searching through</p> <p>22 database using some search words.</p> <p>23 So viewing that deposition testimony --</p> <p>24 all of it, not just what you put in your report --</p> <p>25 are you able to testify under oath that employees on</p>

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<p>1 a litigation hold in this case had similar chat 2 behavior? 3 MR. HILLEGAS: Objection; form. 4 A. Using the sample that Google provided in 5 the log dataset, I can extrapolate that out to the 6 other 136 or the other number of custodians 7 Malkiewicz cites. 8 Q. So we have seen your extrapolation. And I 9 understand -- it's a quantitative extrapolation. 10 There's a number on it. I'm asking about 11 qualitative. 12 You have looked at a bunch of deposition 13 testimony. Whether cited in your report or not, can 14 you tell us under oath that that entire set of 141 15 custodians, they all had similar chat behavior in 16 the year 2022? 17 MR. HILLEGAS: Objection; form. 18 A. No. 19 Q. Do you have an opinion on how the five in 20 your dataset, how their chat frequency -- so I'm 21 going to call it daily message volume -- compares to 22 any specific one of the remaining 136? 23 MR. HILLEGAS: Objection; form. 24 A. Google has not produced any data about any 25 of the other 136.</p>	<p>1 sorry, on how the five custodians in the dataset 2 prior to February 8, 2023, how their practices when 3 it comes to the retention setting being off or on 4 compares to any specific one of the remaining 136 5 employees? 6 MR. HILLEGAS: Objection; form. 7 A. No. 8 Q. Are you just -- are you assuming for 9 purposes of this case that, on average, it's going 10 to be the same because -- I believe this is in your 11 words -- there's no evidence to the contrary? 12 MR. HILLEGAS: Objection; form. 13 A. Sorry, there was a lot of clauses in that. 14 Let me reread it. 15 Q. Let me ask a better question. 16 Am I correct that you determined for the 17 five in the dataset, their chat frequency and you 18 determined their history "on" and history "off" 19 settings, and you're assuming that that average for 20 those two things is going to be the same for the 21 rest of the population? 22 MR. HILLEGAS: Objection; form. 23 A. It wasn't an assumption. I looked at the 24 dataset. I had highs. I had lows. I correlated 25 that between weekdays versus weekends, in addition</p>
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<p>1 Q. But, sir, you just said that you looked at 2 produced chat messages and you looked at deposition 3 testimony. 4 Am I right so far? 5 A. That's correct. 6 Q. Do you have an opinion in this case on how 7 the five in the dataset, their daily message volume, 8 compares to any specific one of the remaining 136 9 employees? 10 MR. HILLEGAS: Objection; form. 11 A. No. 12 Q. Do you have an opinion on how the five in 13 the dataset, how their practices in terms of the 14 retention setting being on or off, compares to any 15 specific one of the remaining 136 employees? 16 MR. HILLEGAS: Objection; form. 17 A. I have no data on that. 18 Q. So no opinion, right? 19 MR. HILLEGAS: Objection; form. 20 A. They would have to, after February 8th, 21 have retention forced on. So any messages after 22 that date, Google implemented the automatic system 23 to move into Vault. 24 Q. Okay. So let me rephrase my question. 25 Do you have an opinion on whether --</p>	<p>1 with the two-week holiday gap. 2 And from there, I can reasonably assure 3 that because of the difference in the variation in 4 this dataset, it would correspond to the larger 5 population of litigants on hold. 6 Q. Let's try it this way. I'm going to take 7 you to your declaration. It's Exhibit 3. Page 6, 8 paragraph 21. 9 Are you there? 10 A. Yes. 11 Q. You write: I have seen no evidence that 12 suggests that the five custodians' use of Google 13 Chat messages reflected in the log dataset, 14 specifically the sending and receiving of Google 15 Chat message with the Google Chat history setting 16 "off," is not reflective of the way other Google 17 employees under a litigation hold in this case used 18 Google Chat or the Google Chat history setting. 19 Did I read that correctly? 20 A. That is correct. 21 Q. So I want to get rid of the double 22 negative. It started with "I have seen no evidence" 23 and ended with that "it's not reflective." 24 Are you -- isn't it true, sir, you are 25 assuming for purposes of your ultimate opinion that</p>

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<p style="text-align: right;">Page 154</p> <p>1 these five's use of chats, including retention 2 settings, is reflective of the remaining custodians? 3 MR. HILLEGAS: Objection; form. 4 A. I'm not assuming. I have seen no evidence 5 that disputes it. 6 Q. For something to be disputed, somebody 7 first needs to contend it, right? 8 A. I thought that's what -- 9 MR. HILLEGAS: Objection; form. 10 A. -- Mr. Malkiewicz did. 11 Q. Is it your opinion -- okay. I'm not 12 asking if there's evidence or not evidence. 13 I'm just asking you: If you take the 14 stand in this case, are you going to get up there 15 and say, It is my expert opinion that these five in 16 the log dataset, that their chat behavior in terms 17 of number of messages sent with history off is, in 18 fact, reflective of the remaining 136, their 19 practices? 20 MR. HILLEGAS: Objection; form. 21 A. My opinion is there's no evidence to the 22 contrary. 23 Q. And because if there is no evidence to the 24 contrary, that's why you feel it's reasonable to 25 extrapolate; is that accurate?</p>	<p style="text-align: right;">Page 156</p> <p>1 Q. So you don't recall any -- any deponent -- 2 any witness in this case testifying that their 3 practice was to make sure retention was on if it was 4 ad tech related? 5 A. No. I searched for the five in the 6 dataset and did not see that. 7 Q. Okay. Let's -- we're off track, but now 8 that we're off track, you're back to talking about 9 the five in the dataset, right? 10 A. Yes. 11 Q. One of those people in that five was 12 Sundar Pichai, right? 13 A. Correct. 14 Q. And I thought you testified earlier that 15 you actually don't remember reviewing his deposition 16 testimony in this case about his practices when it 17 came to retaining chat messages. 18 A. I searched for it; I don't remember 19 getting a hit on it. 20 Q. Okay. So back to where we got off track 21 with Mr. Pichai. 22 Did you look for testimony from any Google 23 employee about their specific practice for chatting 24 on topics that are subject to a litigation hold? 25 A. No.</p>
<p style="text-align: right;">Page 155</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. Yes. I felt if there was evidence, Google 3 would have produced it. 4 Q. Okay. But, sir, I thought you testified 5 earlier that when you went searching through 6 depositions, you did see individuals say that I 7 don't use chat very much, right? 8 MR. HILLEGAS: Objection; form. 9 A. That's correct. 10 Q. And those are the kinds of deposition 11 testimony that you decided to take with a grain of 12 salt? 13 MR. HILLEGAS: Objection; form. 14 A. Yes. 15 Q. Did you look for any testimony from 16 witnesses who said, I made sure the retention 17 setting was "history on" for anything related to a 18 litigation hold? 19 A. No. 20 Q. Did you look for testimony from witnesses 21 who testified their practice was to have retention 22 on for anything business related? 23 A. Yes. 24 Q. Did you find any? 25 A. No.</p>	<p style="text-align: right;">Page 157</p> <p>1 Q. Did you see testimony from witnesses who 2 said they mainly used chat for scheduling meetings 3 or chitchat? 4 MR. HILLEGAS: Objection; form. 5 A. Yes. 6 Q. Is that the kind of testimony you took 7 with a grain of salt? 8 MR. HILLEGAS: Objection; form. 9 A. And I believe one employee said they only 10 use it for, essentially, non-work purposes; happy 11 birthdays and things like that. 12 Q. Tell me how the testimony that you saw 13 from Google employees who said they mainly use it 14 for scheduling or happy birthdays, how did that 15 enter your analysis if at all? 16 A. It didn't enter my analysis at all. 17 Q. So in your declaration -- I want to go to 18 a different page, page 5, paragraph 16. 19 You say: I have seen no evidence that 20 suggests that Google employees under a litigation 21 hold would send fewer chats with the Google Chat 22 history setting "off" in any year during the 23 relevant period. 24 A. That is correct. 25 Q. By the way, what is "relevant period"? Is</p>

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<p style="text-align: right;">Page 158</p> <p>1 it 2019 to 2022?</p> <p>2 A. I can't recall off the top of my head.</p> <p>3 Q. Well, go ahead and review this</p> <p>4 declaration.</p> <p>5 You're aware this was filed with the</p> <p>6 Court, right, in support of the motion seeking</p> <p>7 sanctions?</p> <p>8 A. Yes.</p> <p>9 Q. This term that you're trying to figure</p> <p>10 out, I just -- I don't know if it helps you, but you</p> <p>11 use the term "relevant period" in paragraphs 16 and</p> <p>12 17 and 20 and 22 and 23.</p> <p>13 A. (Reviewed document.) It would be the</p> <p>14 period of the lawsuit.</p> <p>15 Q. What's the period of the lawsuit?</p> <p>16 A. I cannot recall.</p> <p>17 Q. And when you say "period of the lawsuit,"</p> <p>18 are you talking about your understanding of the time</p> <p>19 period in which the alleged misconduct occurred or</p> <p>20 do you mean once the lawsuit was filed?</p> <p>21 A. It would have to be when the lawsuit was</p> <p>22 filed, up and to, I believe it was, March '23 when</p> <p>23 collection stopped.</p> <p>24 Q. Okay. So best that you are able to tell</p> <p>25 us today, the relevant period is the filing of this</p>	<p style="text-align: right;">Page 160</p> <p>1 Q. Okay. Let me ask you this question: Does</p> <p>2 it matter to your opinion whether the log dataset</p> <p>3 punch line of the number of sent messages with a</p> <p>4 history off, does it matter whether that data is, in</p> <p>5 fact, representative of the remaining custodians?</p> <p>6 MR. HILLEGAS: Objection; form.</p> <p>7 A. Clarify "does it matter."</p> <p>8 Q. The opinion that you are planning to offer</p> <p>9 the Court in terms of the number of sent messages</p> <p>10 with history off in any given year, for that</p> <p>11 opinion, does it matter to you as an expert whether</p> <p>12 your sample was representative of the rest?</p> <p>13 A. As stated earlier, by analyzing the</p> <p>14 entirety of the dataset, I had both highs and lows</p> <p>15 both sides of outliers. And taking that,</p> <p>16 extrapolating it across the time period which</p> <p>17 included both weekends and the holidays, this</p> <p>18 provided a conservative estimate, which I have</p> <p>19 already given.</p> <p>20 Q. So what's the answer to my question?</p> <p>21 Does it matter to your opinion whether or</p> <p>22 not the log dataset is truly representative of the</p> <p>23 remaining population in terms of how many sent</p> <p>24 messages took place with the history off?</p> <p>25 A. I have seen no evidence that it's not.</p>
<p style="text-align: right;">Page 159</p> <p>1 lawsuit until March 2023?</p> <p>2 A. The first quarter, yes.</p> <p>3 Q. Okay. So where we were was paragraph 16</p> <p>4 that I had just read to you.</p> <p>5 My question for you is: What kind of</p> <p>6 evidence would there be, Professor Hochstetler, that</p> <p>7 would suggest that employees under litigation hold</p> <p>8 would send fewer chats with history off than your</p> <p>9 sample set, your five custodians during the log</p> <p>10 period?</p> <p>11 A. Any sort of logging, any sort of</p> <p>12 telemetry, I have yet to see anything produced by</p> <p>13 Google that would show me that.</p> <p>14 Q. Okay. So in paragraph 16, you're talking</p> <p>15 about metadata or telemetry?</p> <p>16 A. Yes.</p> <p>17 Q. Deposition testimony to you, it wouldn't</p> <p>18 count; is that accurate?</p> <p>19 MR. HILLEGAS: Objection; form.</p> <p>20 A. I was focused on the log datasets.</p> <p>21 Q. So when you say "I have seen no evidence"</p> <p>22 in paragraph 16, you're excluding from that meaning</p> <p>23 of evidence deposition testimony, true?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. I did not include deposition.</p>	<p style="text-align: right;">Page 161</p> <p>1 Q. That is not my question.</p> <p>2 I want to know how important it is to your</p> <p>3 opinion whether, in reality, the remaining 136</p> <p>4 custodians' chat practices really are similar to</p> <p>5 what you found amongst the five.</p> <p>6 MR. HILLEGAS: Objection; form.</p> <p>7 A. The only data I had to work with was the</p> <p>8 five custodians. If I have data on the 136 other</p> <p>9 custodians, I would gladly analyze that and reduce</p> <p>10 that approximate 1.4 million to an exact hard figure</p> <p>11 of chats destroyed.</p> <p>12 Q. But, sir, the data you keep saying is</p> <p>13 missing, you're talking about metadata on the</p> <p>14 debugging logs, right?</p> <p>15 A. Yes. I don't need to care about the</p> <p>16 contents of the messages.</p> <p>17 Q. You had deposition testimony available to</p> <p>18 you in the form of a searchable database and you</p> <p>19 reviewed some, right?</p> <p>20 MR. HILLEGAS: Objection; form.</p> <p>21 A. Yes.</p> <p>22 Q. So back to my original question.</p> <p>23 Does it matter when you tell the Court,</p> <p>24 hey, I think X number of chat messages were sent</p> <p>25 with the history off for your litigation hold</p>



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<p style="text-align: right;">Page 162</p> <p>1 employees in whatever year, does it matter to that  2 opinion whether the Court determines that your  3 sample set is truly representative of everybody  4 else?  5 MR. HILLEGAS: Objection; form.  6 A. I have seen no evidence that it is not  7 representative.  8 Q. Assume with me that it's not, would your  9 opinion be the same?  10 MR. HILLEGAS: Objection; form.  11 A. I don't like making assumptions.  12 Q. So I'm asking you as an expert to  13 hypothesize with me. Okay.  14 In my hypothetical world where your log  15 dataset is not representative of the remaining 136  16 custodians in terms of sending a message with  17 history off, then your opinion is not reliable,  18 true?  19 MR. HILLEGAS: Objection; form.  20 A. I believe I have already answered your  21 hypothetical. If I had extra data, I would have  22 analyzed it.  23 Q. No, my hypothetical is not giving you more  24 data. In my hypothetical world, turns out that  25 you're log dataset is not a representative sample</p>	<p style="text-align: right;">Page 164</p> <p>1 Q. Okay. So try to stay with me here. We're  2 in a hypothetical world where that sample is not  3 representative of the number of messages that the  4 remaining custodians sent with history off. It's  5 not representative.  6 In that world, am I right that your  7 opinion would not be reliable?  8 MR. HILLEGAS: Objection; form.  9 Q. Your opinion of the annual number of  10 messages lost for litigation hold custodians.  11 MR. HILLEGAS: Same objection.  12 A. So in this hypothetical, I have been  13 provided new information about the other custodians?  14 Q. We don't need go into the weeds.  15 The hypothetical is your sample  16 population's chat behavior in terms of history off  17 is not representative of the remaining 136.  18 In that world, isn't it true that your  19 calculations of messages lost per year is not  20 reliable?  21 MR. HILLEGAS: Objection; form.  22 A. I don't agree that this is going into the  23 weeds. This is the basis of the extrapolation.  24 Q. Sir, you just extrapolated because you  25 found no evidence to the contrary, right?</p>
<p style="text-align: right;">Page 163</p> <p>1 for the remaining population in terms of sent  2 messages with history off.  3 In my hypothetical world, can the Court  4 still rely on your calculation of the number of sent  5 messages that weren't retained by litigation hold  6 employees in any year?  7 MR. HILLEGAS: Objection; form.  8 A. So in your hypothetical, to clarify, the  9 dataset that Google produced with the five  10 custodians, including the CEO, that is based around  11 the holiday period with low message volume with both  12 highs and low senders as outliers is not  13 representative of the larger dataset of litigants on  14 hold?  15 Q. So so far we're together. Yes, please  16 assume so.  17 Then the question now is: Can the Court  18 still rely on your calculation of chat messages lost  19 by Google per year by the litigation hold employees?  20 MR. HILLEGAS: Objection; form.  21 A. Yes.  22 Q. How is that so if your sample is not  23 representative? Explain that.  24 MR. HILLEGAS: Objection; form.  25 A. My sample is representative.</p>	<p style="text-align: right;">Page 165</p> <p>1 That's what you just said in your  2 declaration?  3 A. That is correct.  4 Q. Okay. So the hypothetical -- I'm trying  5 to figure out -- maybe the answer -- we can approach  6 it this way.  7 You would like the Court to believe your  8 opinion, whether it's 1.4, 1.5, or 1.8, the number  9 of messages not preserved by Google per year.  10 Does it matter to you whether the 136  11 custodians that weren't in your dataset, whether  12 their practices in terms of toggling on or using  13 chat were different than the five in your set?  14 MR. HILLEGAS: Objection; form.  15 A. If I was provided new evidence, I would  16 revise my opinion and issue a new report.  17 Q. Because your current numbers would not be  18 reliable --  19 MR. HILLEGAS: Objection; form.  20 Q. -- right?  21 You would have to modify your opinions is  22 what you're saying?  23 A. With new data, yes.  24 Q. Okay. So one of the things you talked  25 about earlier today was the pandemic and folks</p>

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<p style="text-align: right;">Page 166</p> <p>1 working from home.</p> <p>2 Did you -- are you assuming that when</p> <p>3 folks at Google were working from home due to the</p> <p>4 pandemic, they would have used chat more frequently?</p> <p>5 MR. HILLEGAS: Objection; form.</p> <p>6 A. If they're working from home, yes.</p> <p>7 Q. Okay. And I'm not -- this is in your</p> <p>8 declaration, right? Look at paragraph 17.</p> <p>9 Again, again, it's framed as: I have seen</p> <p>10 no evidence that suggests that the number of Google</p> <p>11 Chat messages sent and received by relevant Google</p> <p>12 employees under a litigation hold would have been</p> <p>13 lower in any other years during the relevant period</p> <p>14 than in 2022.</p> <p>15 And then in the next paragraph, you talk</p> <p>16 about the pandemic.</p> <p>17 Do you see that?</p> <p>18 A. That's correct.</p> <p>19 MR. HILLEGAS: Counsel, I think we</p> <p>20 have been on the record about an hour, so if you're</p> <p>21 reaching a stopping point.</p> <p>22 MS. NAJAM: Yes, I am.</p> <p>23 Q. So during the pandemic when people were</p> <p>24 working from home, isn't that when video meetings</p> <p>25 and calls started taking off more, like Zoom or</p>	<p style="text-align: right;">Page 168</p> <p>1 they're more likely to use chat to do that rather</p> <p>2 than email?</p> <p>3 MR. HILLEGAS: Objection; form.</p> <p>4 A. I'm not certain.</p> <p>5 Q. Do you know whether there's a higher</p> <p>6 likelihood that "history off" chats sent during the</p> <p>7 work from home phase of pandemic were not business</p> <p>8 related?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. I have no evidence for that.</p> <p>11 Q. Well, what about personal experience, when</p> <p>12 folks were working from home during the pandemic and</p> <p>13 they wanted to write to each other non-work related</p> <p>14 things, were they more likely to use an instant</p> <p>15 messaging tool or email?</p> <p>16 A. For personal communication, at both my</p> <p>17 businesses I'm not allowed to use either, so I</p> <p>18 resort to tools like Discord.</p> <p>19 Q. What's Discord?</p> <p>20 A. Discord is another messaging system.</p> <p>21 Q. An instant messaging or...</p> <p>22 A. There's instant messaging, group</p> <p>23 messaging, video, audio, and then streaming.</p> <p>24 Q. Okay. And that would be over, for</p> <p>25 example, email?</p>
<p style="text-align: right;">Page 167</p> <p>1 Microsoft Teams or Google's video conferencing?</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 A. I believe so.</p> <p>4 Q. In fact, based on your personal</p> <p>5 experience, do you recall that that's when video</p> <p>6 chat started being used more frequently by</p> <p>7 businesses?</p> <p>8 A. I can't opine on all businesses. I</p> <p>9 personally in both of my full-time jobs used Zoom</p> <p>10 and other various video chats previously because of</p> <p>11 the geographic limitations.</p> <p>12 Q. Okay. But can we at least agree that</p> <p>13 based on your experience, Zoom -- I mean, most of us</p> <p>14 wish we had bought stock in it before the pandemic.</p> <p>15 Like, these things took off during the</p> <p>16 pandemic, right?</p> <p>17 MR. HILLEGAS: Objection; form.</p> <p>18 A. I believe so, yes.</p> <p>19 Q. Besides your personal experience, do you</p> <p>20 have any other authority for your opinion that</p> <p>21 Google employees would have used chat more during</p> <p>22 the work from home phase of pandemic?</p> <p>23 A. No.</p> <p>24 Q. When folks are not face-to-face to</p> <p>25 chitchat about non-business matters, can we agree</p>	<p style="text-align: right;">Page 169</p> <p>1 MR. HILLEGAS: Objection; form.</p> <p>2 Q. As distinct from email?</p> <p>3 A. Yes.</p> <p>4 MS. NAJAM: We can take a break.</p> <p>5 THE VIDEOGRAPHER: Off the record,</p> <p>6 2:27.</p> <p>7 (Recess 2:27 p.m. to 2:42 p.m.)</p> <p>8 THE VIDEOGRAPHER: We're on the</p> <p>9 record. The time is 2:42.</p> <p>10 Q. Professor Hochstetler, I want to ask you</p> <p>11 about some opinions in your original report on page</p> <p>12 4.</p> <p>13 MR. HILLEGAS: Are you talking about</p> <p>14 the supplemental, not the --</p> <p>15 MS. NAJAM: It's called supplemental.</p> <p>16 It's the one dated October. Sorry.</p> <p>17 MR. HILLEGAS: When you say original</p> <p>18 because he has the first set.</p> <p>19 MS. NAJAM: I'm sorry. I'm sorry.</p> <p>20 MR. HILLEGAS: Thank you.</p> <p>21 MS. NAJAM: Original Chat-related</p> <p>22 report.</p> <p>23 MR. HILLEGAS: Appreciate that. Thank</p> <p>24 you.</p> <p>25 A. I am there.</p>

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<p style="text-align: right;">Page 170</p> <p>1 Q. Paragraph 7(b). You note there that none 2 of the -- and I'm paraphrasing. None of the five 3 custodians in your Log Dataset personally toggled 4 the history on despite being instructed to do so 5 when discussing irrelevant topics; is that accurate? 6 A. That's correct. 7 Q. Is it correct that based on your review of 8 the metadata, none of these five custodians toggled 9 history off either, right? 10 A. Correct. 11 Q. And how many groups involving any of these 12 five was retention already toggled to "on" at the 13 beginning of the log period? 14 A. I can't recall the exact number. 15 Q. But there were instances of groups, as you 16 use the term in your report, already having the 17 setting on at the beginning of the log period, 18 right? 19 A. That's correct. 20 Q. By the way, we should have made this 21 clarification earlier. 22 A group in the context of Google Chat is 23 just like it sounds, a group of people talking, a 24 group of people who are on the same -- who are 25 conversing. I'll just leave it at that.</p>	<p style="text-align: right;">Page 172</p> <p>1 A. Yes, I believe that's the right 2 terminology. 3 Q. Okay. So back to where I was asking 4 about. Am I correct that in certain Chat 5 conversations that are reflected in the Log Dataset 6 that included these five, there were several 7 instances where someone else in the group, even if 8 not these five, did toggle history on, true? 9 A. That is correct. 10 Q. So back to paragraph 7(b), you have a 11 reference there, per Google's documentation, as I 12 understand they were instructed by Google to do if 13 they were subject to a litigation hold and discussed 14 a relevant topic. 15 Do you see where I read that from? 16 A. Yes. 17 Q. Before forming the opinions in your 18 October report, did you actually review the actual 19 instructions that were given to folks who were on 20 legal hold in connection with this suit? 21 A. Yes. 22 Q. Look at -- you didn't rely on them, 23 though; is that accurate? 24 A. No. 25 Q. It's not accurate? Let me remove the</p>
<p style="text-align: right;">Page 171</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. Yes, it could also be one-on-one DMs. 3 Q. Sure. So if I am on -- if I'm messaging 4 just you, that group would be you and me, right? 5 A. Correct. 6 Q. And if Peter, you, and I are all messaging 7 each other together simultaneously, that would be a 8 group. I say simultaneously. Let me -- let me try 9 to state that more artfully. 10 If I'm sending a message to the two of 11 you, then the group is Peter, you, and me, right? 12 A. Yes. And it could be a named group, as I 13 understand, and that would have [REDACTED]. 14 Q. And each individual message in terms of 15 the metadata, you saw metadata on various messages 16 that in my example might be exchanged among the 17 group, right? 18 MR. HILLEGAS: Objection; form. 19 Q. If I type something to the group Peter and 20 Professor Hochstetler, you call that a message, 21 right? 22 A. That is correct. 23 Q. And if in Vault there are several messages 24 within that group that are then saved in Vault, you 25 call that a conversation, right?</p>	<p style="text-align: right;">Page 173</p> <p>1 double negative. 2 Did you -- you're saying you reviewed the 3 instructions given to employees; is that right? 4 A. I skimmed them. 5 Q. You skimmed them. What parts? 6 A. The basic instructions. 7 Q. How many sets of instructions did you look 8 at? 9 A. Just one. 10 Q. Let's look at your -- page 43 of this 11 report. That's where your materials relied on 12 documents from production list start, right? 13 A. That's correct. 14 Q. So none of these are actually any 15 litigation holds produced by Google, are they? 16 A. I don't believe so. I know the CSVs 17 aren't. 18 Q. Okay. If you looked at them, why weren't 19 they listed in Appendix A? Or, sorry. 20 If you skimmed one, why isn't it listed in 21 Appendix A? 22 MR. HILLEGAS: Objection; form. 23 A. I didn't rely upon it. 24 Q. Okay. In fact, if you look at page 11 of 25 your report, paragraph 18. Your second sentence</p>

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<p style="text-align: right;">Page 174</p> <p>1 says, I understand that a litigation hold is an 2 instruction to preserve any records and information 3 that are relevant to an anticipated or ongoing 4 lawsuit. 5 And then you cite an article you read 6 online. Do you see that? 7 A. That's correct. 8 Q. Did your understanding of what a 9 litigation hold is, did that come from this online 10 article? 11 A. As I recall, yes. 12 Q. What do you remember -- the actual 13 litigation hold language that you said you skipped, 14 what did it say? 15 A. I can't recall. 16 Q. That wasn't important to you enough for 17 your opinion to remember what the actual 18 instructions were? 19 MR. HILLEGAS: Objection; form. 20 A. That is correct. It had nothing to do 21 with the dataset. 22 Q. Isn't one of your opinions in this case 23 that Google employees who were on litigation hold 24 failed to follow instructions to keep relevant 25 messages?</p>	<p style="text-align: right;">Page 176</p> <p>1 unretained messages, that's what you mean outside of 2 the -- I'm sorry, wait a second. 3 Are you able to speak to the relevancy of 4 any unpreserved messages, whether in your Log 5 Dataset or otherwise? 6 MR. HILLEGAS: Objection; form. 7 A. As they are part of the dataset, yes. 8 Q. Okay. Let's take that one by one. 9 Are you saying that relevant messages were 10 not preserved during the log period? 11 MR. HILLEGAS: Objection; form. 12 A. Relevant or pertinent? 13 Q. Let's go backwards a little further. 14 What is your understanding of what people 15 on litigation hold were instructed to retain? 16 A. Any talk or communication that was 17 pertinent to that litigation, whatever that 18 litigation may be. 19 Q. And the word "pertinent," I'm not going to 20 find that in either of your reports or your 21 declaration, am I, sir? 22 MR. HILLEGAS: Objection; form. 23 A. I believe I do use that word. 24 Q. Are you sure you didn't use solely the 25 word "relevant"?</p>
<p style="text-align: right;">Page 175</p> <p>1 A. I believe the opinion that applied to this 2 is 7(a), which is the vast majority of individual 3 messages sent in the Google Chat included in a Log 4 Dataset were not preserved because they were sent 5 with the Chat retention history setting off, 6 [REDACTED]. 7 I calculated that more than 87 percent of 8 all messages, at least 18,566 out of a total of 9 around 21,269, were lost during that 68-day period 10 covered by the Log Dataset. 11 Q. So I read your report. You don't need to 12 read 7(a). I'll ask the question again in a clearer 13 form. 14 Is it your opinion in this case that 15 Google employees who were subject to a litigation 16 hold failed to follow their litigation hold 17 instructions on retaining relevant messages? 18 MR. HILLEGAS: Objection; form. 19 Q. Are you -- sorry, it has been over a 20 minute. 21 Are you unable to answer the question? 22 MR. HILLEGAS: Objection; form. 23 A. I don't want to speak to the relevancy 24 because it didn't involve the dataset. 25 Q. You don't want to speak to relevancy of</p>	<p style="text-align: right;">Page 177</p> <p>1 A. (Reviewed documents.) 2 Q. Let's not waste time on that. I'll ask a 3 new question and it was similar to the one that we 4 got off track. 5 Is it your expert opinion in this case 6 that Google employees didn't abide by litigation 7 hold instructions? 8 MR. HILLEGAS: Objection; form. 9 A. It is my opinion that messages were lost 10 and never made it to Vault. 11 MS. NAJAM: Okay. I'll object as 12 nonresponsive. 13 Q. And I'm using word "relevant" because it's 14 in your reports and your declaration. 15 Do you have an opinion in this case as to 16 whether Google's employees failed to comply with 17 their litigation holds? 18 A. Yes, messages were lost. 19 Q. Messages that pertained to this 20 litigation? 21 A. Messages relevant to the dataset. 22 Q. I'm not talking about the dataset, so 23 let's back up. 24 What is your understanding of the meaning 25 of relevance in the context of a notice saying, hey</p>

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<p style="text-align: right;">Page 178</p> <p>1 people, make sure to retain relevant documents of 2 this litigation? What does relevant mean? 3 MR. HILLEGAS: Objection; form. 4 A. Any communication related to that. 5 Q. Related to what? 6 A. To the -- to the litigation. 7 Q. Is it your expert opinion that employees 8 who received a litigation hold notice in this 9 lawsuit nonetheless failed to make sure history was 10 "on" when sending a message related to this 11 litigation? 12 MR. HILLEGAS: Objection; form. 13 A. I wouldn't see that from the dataset 14 because the dataset would actually show that as 15 permanent and Vault would have picked it up and 16 those pertinent messages would have been seen. 17 MS. NAJAM: Objection; nonresponsive. 18 Q. Is your answer no, I don't have an expert 19 opinion on that because I lack the data? 20 MR. HILLEGAS: Objection; form. 21 A. The dataset didn't include that. 22 Q. Do you have an expert opinion on whether 23 the litigation hold employees who were told to 24 retain Chat messages that may be relevant, that they 25 just didn't comply with the holds?</p>	<p style="text-align: right;">Page 180</p> <p>1 Q. We will get to the exact words of yours. 2 MS. NAJAM: Can we turn realtime off 3 or not have him on one because he's not even 4 listening to my questions. He's waiting until to ask 5 them. Then he's reading them on realtime and then 6 20 seconds pass. It's building in a huge time delay. 7 MR. HILLEGAS: The witness is entitled 8 to a realtime transcript. 9 MS. NAJAM: Under what rule? 10 MR. HILLEGAS: If you want to stop 11 this deposition to take away the witness's realtime, 12 we will leave. 13 MS. NAJAM: I would not stop the 14 deposition. My question to you is whether you object 15 to me taking away his realtime iPad. If you're -- 16 MR. HILLEGAS: I do object to -- 17 MS. NAJAM: If he can't testify, he 18 can't testify without the realtime, we'll leave it. 19 THE WITNESS: I have a lot of hearing 20 loss from stuff overseas so I rely upon reading. 21 MS. NAJAM: Sorry. Because this 22 morning you weren't really looking at it and now it 23 seems like every question so I didn't realize. 24 THE WITNESS: Sorry, the clauses have 25 gotten longer and longer.</p>
<p style="text-align: right;">Page 179</p> <p>1 MR. HILLEGAS: Objection to form. 2 Q. Or is that outside of your expert opinion 3 on this case? 4 MR. HILLEGAS: Objection; form. 5 A. The dataset doesn't show one way or the 6 other because it doesn't include the contents. It 7 only includes the metadata. 8 Q. So you don't have an opinion on the issue, 9 true? 10 MR. HILLEGAS: Objection; form. 11 A. On the dataset, I have no opinion on that. 12 Q. I'm not asking about the dataset. I'm 13 asking about the employees outside of the dataset 14 who received litigation hold notes. Are you going 15 to show up in court and say they failed to comply 16 with their litigation hold notices? 17 MR. HILLEGAS: Objection; form. 18 A. My opinion is regarding the lost messages. 19 Q. Well, your opinion went beyond that, right, 20 sir? It went beyond the number of lost messages, 21 right? 22 MR. HILLEGAS: Objection; form. 23 A. Yes, because it was February 8th when 24 Google finally implemented the automatic and forced 25 history on for those litigants.</p>	<p style="text-align: right;">Page 181</p> <p>1 Q. Okay. Let's just look at the litigation 2 holds that were produced in this case. I'm going to 3 mark Exhibit 8. 4 MS. NAJAM: Can you hand those down, 5 please. 6 (Exhibit 8 marked.) 7 Q. Let's look at the page ending in 450. It 8 references three separate investigations of Google's 9 search and advertising products from some 10 governmental bodies. Do you see that? And the 11 coalition of -- sorry, governmental bodies and a 12 coalition of state attorney generals in that first 13 paragraph. 14 Are you with me so far? 15 A. Yes. 16 Q. And the last sentence of the second 17 paragraph says, This means you must keep and not 18 delete all relevant information as explained below. 19 Do you see that? 20 A. That's correct. 21 Q. Then obviously the details of the 22 instructions have been redacted. But if you go to 23 the next page 451, it says, Please do not use the 24 following tools or messaging apps to discuss any 25 topics covered by this legal hold. And the second</p>

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<p>Page 182</p> <p>1 one there references Google messages -- sorry, 2 Google messaging apps (such as Chat, Hangouts, Duo). 3 And then it says, If you must do so, 4 please make sure the settings preserve the messages 5 such as switching to "history on" for Chat or 6 Hangouts. 7 Before today had you ever seen this 8 language that is specific in the litigation holds to 9 chats? 10 A. Not that I recall. 11 Q. So when forming your opinions in this 12 case, starting in October of this year, were you 13 aware that Google had instructed -- sorry. I saw 14 you raise your eyebrow so I'll fix it. 15 When forming your opinions in this case 16 relating to chats, were you aware that Google 17 instructed its employees not to use it to discuss 18 matters that were the subject of a litigation hold? 19 MR. HILLEGAS: Objection; form. 20 A. I believe I saw that in a deposition. 21 Q. But you just hadn't seen this particular 22 language in the instruction itself; is that 23 accurate? 24 A. No. 25 Q. But I thought I had asked you whether you</p>	<p>Page 183</p> <p>1 had seen page 451 before and you said no. Did I 2 mishear you? 3 MR. HILLEGAS: Objection to form. 4 A. No, I have not seen this redacted document 5 before. 6 Q. Okay. When forming your opinions in this 7 case, were you aware that Google employees were 8 instructed, well, if you have to use Chat to talk 9 about stuff relevant to a lawsuit, toggle the 10 history on? Did you know that? 11 A. It didn't influence my opinion because it 12 wasn't part of that dataset. 13 MS. NAJAM: I'll object as 14 nonresponsive. 15 Q. When forming your opinions in this 16 lawsuit, were you aware that folks on hold were 17 told, if you have to use Chat, turn the history on 18 if it relates to something relevant to the lawsuit? 19 MR. HILLEGAS: Objection; form. 20 A. I was not aware. 21 Q. And I asked you this earlier and we wasted 22 a lot of time and I used the word opinion, so I'm 23 going to switch a different word out. 24 For your opinions in this case about the 25 number of potentially relevant messages sent with</p>	<p>Page 184</p> <p>1 "history off" in 2022 or some other year, are you 2 assuming that at least some employees didn't follow 3 the instructions we just looked at -- 4 MR. HILLEGAS: Objection; form. 5 Q. -- in Exhibit 8? 6 MR. HILLEGAS: Same objection. 7 A. And by relevant we mean pertinent 8 messages? 9 Q. However you define the word in your mind. 10 A. My opinions are based on the messages lost 11 from the dataset. 12 Q. So you don't have an assumption built in 13 there that some employees failed to follow these 14 instructions in Exhibit 8? 15 MR. HILLEGAS: Objection; form. 16 A. As I recall, no. Mr. Pichai may have 17 mentioned it in his deposition. 18 Q. That's the deposition testimony we talked 19 about earlier that you couldn't specifically recall, 20 right? 21 A. I cannot recall the numbers he said for 22 messages sent per day. 23 Q. Just so we're on the same page, an opinion 24 along the lines of employees compliance with 25 litigation holds, that's not even in your wheelhouse</p>	<p>Page 185</p> <p>1 or your expertise; is that accurate, sir? 2 MR. HILLEGAS: Objection; form. 3 A. Correct. My opinion is based on the Log 4 Dataset produced by Google. 5 Q. Is it possible that for the five 6 custodians whose data was contained in your set, is 7 it possible that zero of their unpreserved Chat 8 messages in that period had anything to do with this 9 lawsuit, right? 10 MR. HILLEGAS: Objection; form. 11 A. I have no opinion on that because it 12 wasn't in the Log Dataset produced. 13 Q. So then let's take them one by one. Let's 14 start with [REDACTED]. You saw that he was the 15 [REDACTED]. 16 Do you recall that? 17 A. Yes. 18 Q. What did his job entail during the 68 days 19 in the log period? 20 A. He was the [REDACTED]. 21 Q. What did his day-to-day job look like? Do 22 you have any idea? 23 A. I have never been a [REDACTED] 24 [REDACTED] 25 Q. Is that a no, you don't have any idea?</p>
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<p style="text-align: right;">Page 186</p> <p>1 A. No idea.</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 Q. Did his job during the 68 days have</p> <p>4 anything to do with display advertising?</p> <p>5 A. I have no idea.</p> <p>6 Q. Do you have any reason to think that he</p> <p>7 sent or received any messages relevant to the topic</p> <p>8 of this ad tech lawsuit in that 68-day period?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. It was not contained within the dataset.</p> <p>11 Q. When you say "it was not contained,"</p> <p>12 you're talking about the content of messages wasn't</p> <p>13 in the dataset, right?</p> <p>14 A. That's correct.</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 Q. Did you check to see whether any chats</p> <p>17 were actually produced that included [REDACTED] in</p> <p>18 that same 68-day period?</p> <p>19 MR. HILLEGAS: Objection; form.</p> <p>20 A. I believe I did search to see if any were</p> <p>21 produced.</p> <p>22 Q. Were they?</p> <p>23 MR. HILLEGAS: Object to the form.</p> <p>24 A. He's not in either of these conversation</p> <p>25 chains.</p>	<p style="text-align: right;">Page 188</p> <p>1 lawsuit?</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 A. The message content was not in the</p> <p>4 dataset.</p> <p>5 Q. So you don't have any reason to think that</p> <p>6 she did send or get a Chat message relevant to this</p> <p>7 suit in that period, true?</p> <p>8 A. I don't want to say no, because there were</p> <p>9 pertinent settings in the history for her Chat</p> <p>10 messages.</p> <p>11 Q. I'm not following what that meant. Can</p> <p>12 you explain?</p> <p>13 A. Well, earlier we talked about they were</p> <p>14 instructed to turn history on if they were going to</p> <p>15 receive pertinent messages. And in [REDACTED] table,</p> <p>16 I see permanents.</p> <p>17 So for the question did she get -- send or</p> <p>18 get Chat messages relevant to this suit, per this</p> <p>19 figure, I'll have to say yes.</p> <p>20 Q. So you -- your opinion is if someone</p> <p>21 turned their history on, that must have been because</p> <p>22 they were talking about something related to this ad</p> <p>23 tech lawsuit?</p> <p>24 MR. HILLEGAS: Objection; form.</p> <p>25 A. Not necessarily.</p>
<p style="text-align: right;">Page 187</p> <p>1 Q. So back to my question of whether any --</p> <p>2 you saw any chats produced during that log period</p> <p>3 with [REDACTED] on them, is the answer no?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. Correct.</p> <p>6 Q. [REDACTED] -- let me ask a different</p> <p>7 question.</p> <p>8 Have you actually ever seen a Chat message</p> <p>9 that was produced in this ad tech lawsuit that</p> <p>10 included [REDACTED]?</p> <p>11 MR. HILLEGAS: Objection; form.</p> <p>12 A. No.</p> <p>13 Q. Okay. I'll move to [REDACTED]</p> <p>14 [REDACTED]; is that right? First name</p> <p>15 [REDACTED].</p> <p>16 A. That's correct.</p> <p>17 Q. Are you able to tell us what her</p> <p>18 day-to-day job was during the 68 days?</p> <p>19 A. No.</p> <p>20 Q. Are you able to tell us whether it had</p> <p>21 anything to do with Display Ads?</p> <p>22 A. No.</p> <p>23 Q. Do you have any reason to think that she</p> <p>24 sent or got any messages, Chat messages, in that 68</p> <p>25 days that had anything to do with the topics of this</p>	<p style="text-align: right;">Page 189</p> <p>1 Q. Can we agree that there's lots of reasons</p> <p>2 why somebody may have toggled history on?</p> <p>3 MR. HILLEGAS: Objection; form.</p> <p>4 A. Yes, and she never toggled history on.</p> <p>5 Q. You said never toggled history on?</p> <p>6 A. Correct, none of these did.</p> <p>7 Q. Did you ever see a produced Chat message</p> <p>8 including [REDACTED] in this lawsuit?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. Not that I recall.</p> <p>11 Q. Have you ever seen a Chat message like --</p> <p>12 with the content that indicated to you that</p> <p>13 [REDACTED] was ever talking about Display Ads,</p> <p>14 whether in that 68-day period or otherwise?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. No.</p> <p>17 Q. We'll move on to [REDACTED]. Do you</p> <p>18 know what her -- sorry, just for the record she was</p> <p>19 [REDACTED]; is that right?</p> <p>20 A. Yes, that's correct.</p> <p>21 Q. Any clue what she was doing day-to-day</p> <p>22 during the 68 days?</p> <p>23 MR. HILLEGAS: Object to the form.</p> <p>24 A. No.</p> <p>25 Q. Do you know whether whatever she was</p>

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<p style="text-align: right;">Page 190</p> <p>1 doing, whether it pertained to ad tech or the 2 Display Ads business? 3 MR. HILLEGAS: Objection; form. 4 MS. NAJAM: What is the objection? 5 MR. HILLEGAS: You continue to raise 6 your voice and to badger the witness and I'm going to 7 continue to making objections until you can speak 8 calmly to him and try not to harass him. 9 MS. NAJAM: Oh, wow, so first of all, 10 when someone asks you the basis for the objection you 11 just stated, you don't give a speech, but I 12 understand. I raised my voice because the witness 13 said he had a hearing problem and so I have raised it 14 ever since. 15 MR. HILLEGAS: You have been doing 16 that since long before the witness mentioned it to 17 you. You have been using it to badger him to try to 18 make a point. 19 MS. NAJAM: Okay, very much disagree 20 but we can keep going. And if your objection is 21 loud, you can just have a running objection and stop 22 ruining my record. 23 MR. HILLEGAS: I can continue to make 24 the objections as I see fit and continue to do so. 25 MS. NAJAM: The objections are</p>	<p style="text-align: right;">Page 192</p> <p>1 A. You are a part of this whole process, so 2 yes. 3 Q. Okay. Is there anything I can do to be 4 less intimidating to you? 5 A. Not at this time. 6 Q. So [REDACTED], I think I got on the 7 record that her job was [REDACTED] 8 [REDACTED] Sorry, I forgot whether I asked you 9 whether you know what her day-to-day job was during 10 the 68 days. 11 A. I don't know. 12 Q. Do you have any reason to think that she 13 sent or received any messages relevant to the topic 14 of this lawsuit in that 68 days? 15 A. I'll reference again the history being 16 turned on. But as we talked about a second ago, 17 that could be for any number of reasons. 18 Q. Did you happen to see any produced Chat 19 messages where [REDACTED] was discussing Display 20 Ads or ad tech? 21 A. Not that I recall. 22 Q. Did you see any documentation that she 23 [REDACTED] 24 [REDACTED]? Does that 25 ring a bell?</p>
<p style="text-align: right;">Page 191</p> <p>1 enumerated in the rules and there's not one for 2 lady's voice too loud. Like, that's not an 3 objection. 4 MR. HILLEGAS: There is one for 5 badging the witness. 6 MS. NAJAM: It is based on the 7 content, not on the level of someone's voice. 8 MR. HILLEGAS: If you're using the 9 level of your voice and your tone to try to 10 intimidate or harass the witness, it counts. And I 11 will continue to make an objection on that basis. 12 Q. Doctor -- 13 MR. HILLEGAS: If you would like me to 14 list that out every single time, I will do so. 15 Otherwise I'll continue to say objection, form. 16 MS. NAJAM: You can have a running 17 objection to the level of my voice. And I'm going to 18 again ask you to stop saying objection, form even 19 when there's nothing wrong with the question. 20 MR. HILLEGAS: And I'll continue to 21 make objections as I see fit. 22 Q. Dr. Hochstetler, am I intimidating you? 23 That is the question. Am I intimidating you? 24 A. This whole process intimidates me. 25 Q. Am I intimidating you?</p>	<p style="text-align: right;">Page 193</p> <p>1 A. No. I included her because the Exhibit D, 2 the original date before the corrected date had her 3 listed as being under hold in 2021. So she would 4 have been within the 2022 time period of the 5 dataset. 6 Q. Got it. Okay. Sorry to bore you, but 7 we're going to ask similar questions with the next 8 person in the dataset. [REDACTED] 9 [REDACTED]. 10 Do you recall that? 11 A. Yes. 12 Q. And I think you touched on this before but 13 it sounds like you don't know what his actual 14 day-to-day job would have entailed for that period? 15 A. I assume he's [REDACTED], but I would not know 16 what his day to day is. 17 Q. When you say [REDACTED], is that short for 18 [REDACTED] -- I'm sorry, what is [REDACTED]? 19 A. So within industry companies you have a 20 path of management where you have reports, people 21 report to you, you're their manager, [REDACTED] 22 [REDACTED] 23 [REDACTED] 24 Q. Do you know whether during that 68 days, 25 his job had anything to do with ad tech or Display</p>

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<p>Page 194</p> <p>1 Ads?</p> <p>2 A. I have no idea.</p> <p>3 Q. And do you have any reason to think he</p> <p>4 sent or received any messages relevant to the topics</p> <p>5 of this lawsuit in that period?</p> <p>6 A. I'm going to reference Figure 8 again and</p> <p>7 he did have history on. But as before, that could</p> <p>8 be for any number of reasons.</p> <p>9 Q. Did you see any produced Chat</p> <p>10 conversations where [REDACTED] was discussing</p> <p>11 something relating to the Display Ad's business or</p> <p>12 the tech?</p> <p>13 A. No.</p> <p>14 Q. I'm sorry to go backwards. I meant to ask</p> <p>15 you something on [REDACTED]</p> <p>16 You testified earlier that you decided not</p> <p>17 to exclude her despite her number of sent messages</p> <p>18 during the period being a couple thousand above the</p> <p>19 next person.</p> <p>20 Do you generally recall that?</p> <p>21 A. Yes.</p> <p>22 Q. We can go to page 23.</p> <p>23 And you mentioned later in your deposition</p> <p>24 that the reason you did not exclude her was because</p> <p>25 you didn't consider her numbers out of bounds.</p>	<p>Page 196</p> <p>1 A. Supplemental report.</p> <p>2 Q. Yes, Exhibit 1.</p> <p>3 A. I am there.</p> <p>4 Q. The first full sentence on this page</p> <p>5 reads, Prior to that date, referencing February 8,</p> <p>6 for each of four of the five individuals, at least</p> <p>7 92 percent of their sent and received messages were</p> <p>8 not retained. Then you have a Footnote.</p> <p>9 Do you see that?</p> <p>10 A. That's correct.</p> <p>11 Q. For the 92 percent number, you did exclude</p> <p>12 [REDACTED]; is that right?</p> <p>13 A. That is correct.</p> <p>14 Q. And if you include him and count up the</p> <p>15 whole group's sent messages during the log period,</p> <p>16 am I correct that the percentage of unpreserved</p> <p>17 messages is actually 87 percent?</p> <p>18 A. I'll have to reference.</p> <p>19 Q. Let's go to page 19, paragraph 36, may</p> <p>20 help.</p> <p>21 A. (Reviewed document.) Yes, 1,856. That's</p> <p>22 correct.</p> <p>23 Q. So while we're talking about [REDACTED] --</p> <p>24 sorry to take you around your report. Now I'm going</p> <p>25 to go to page 24, Table 9. So I want to make sure I</p>
<p>Page 195</p> <p>1 Do you recall testifying to that?</p> <p>2 MR. HILLEGAS: Objection; form.</p> <p>3 A. Yes.</p> <p>4 Q. I just wanted to clarify, did you perform</p> <p>5 any kind of statistical analysis to decide that,</p> <p>6 well, her number is not out of bounds enough for me</p> <p>7 to exclude it?</p> <p>8 A. No.</p> <p>9 Q. How did you decide that her average number</p> <p>10 of sent, which is over 100 a day, that that's within</p> <p>11 bounds enough for me to keep it in my set before</p> <p>12 extrapolating to the remaining 136?</p> <p>13 MR. HILLEGAS: Objection; form.</p> <p>14 A. Because I had no visibility to not know</p> <p>15 that it was out of bounds.</p> <p>16 Q. So does that mean you had no reason to</p> <p>17 exclude it so you left it in; is that accurate?</p> <p>18 A. That's correct.</p> <p>19 Q. Okay. So you talked a little bit earlier</p> <p>20 about [REDACTED] and some disagreement with</p> <p>21 Mr. Malkiewicz about whether to exclude him or not.</p> <p>22 I just wanted to clarify this. So let's in your</p> <p>23 report go to page 5, paragraph 7(c).</p> <p>24 A. Which report?</p> <p>25 Q. Sorry, your October report.</p>	<p>Page 197</p> <p>1 understand your calculations in your second column</p> <p>2 and fourth column.</p> <p>3 For [REDACTED] you calculated that before</p> <p>4 retention settings changed on February 8th,</p> <p>5 65.7 percent of his sent messages were not retained;</p> <p>6 is that right?</p> <p>7 A. Correct.</p> <p>8 Q. And then in terms of received, that number</p> <p>9 is 56.4 percent not retained; is that right?</p> <p>10 A. Yes.</p> <p>11 Q. Can we agree that those are significantly</p> <p>12 lower numbers than, say, 92 percent?</p> <p>13 MR. HILLEGAS: Objection; form.</p> <p>14 A. Yes. [REDACTED] was definitely an</p> <p>15 outlier. If you compare that to Figure 8, he barely</p> <p>16 used Chat.</p> <p>17 Q. But we're talking about two different</p> <p>18 things, right? Right now we're looking at his</p> <p>19 percentage of retention, 65.7 and 56.4, right?</p> <p>20 A. Yes.</p> <p>21 Q. And percentage retention, that's a</p> <p>22 different -- that's going to be a different concept</p> <p>23 than total number of sent and received, right?</p> <p>24 A. Yes, if the history's on or off within</p> <p>25 those messages.</p>

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<p style="text-align: right;">Page 198</p> <p>1 Q. So earlier I asked you how many [REDACTED] 2 [REDACTED] there were in terms of message volume in the 3 remaining 136, but now you have a similar question. 4 How many [REDACTED] are there in the 5 remaining 136 when it comes to percentage of Chat 6 messages sent with history "off" versus "on"? 7 A. I have no information on the 136. The Log 8 Dataset only included the five. 9 Q. Fair enough. We'll move on to our last -- 10 our last of the custodians in the Log Dataset. I 11 think I have already asked you about Mr. Pichai. 12 Sorry, I just don't remember if I did. 13 Do you know his level of involvement in 14 Display Ads or the tech in the 68 days of the log 15 period? 16 A. I know he's the CEO and that's it. 17 Q. So you're assuming based on his CEO 18 position that he must have had some involvement? 19 A. He was under litigation hold and he was 20 one of the five in the dataset. 21 Q. So I understand what you're saying. I'm 22 talking about the topics of the -- the potential 23 topics of unpreserved Chat messages. 24 You have put in your report that for 25 Mr. Pichai, 96 percent of his sent messages during</p>	<p style="text-align: right;">Page 200</p> <p>1 general for your opinions in this case, that if a 2 document was produced -- I'm sorry, if a Chat 3 conversation was produced, then it was pertinent to 4 this case? 5 MR. HILLEGAS: Objection; form. 6 A. Yes. 7 Q. Back to the sample employees. I'm sorry. 8 You know who I mean. The five people whose data is 9 in the Log Dataset. 10 I don't think I asked you this earlier. 11 You testified that they were at least mid career? 12 Did I hear that right? 13 A. From my understanding of these job titles, 14 these would be mid career employees. 15 Q. Did you -- do you have any idea what 16 percentage of the remaining 136 are mid career 17 employees or higher? 18 MR. HILLEGAS: Objection; form. 19 Q. Is that analysis that you have done? 20 A. No. 21 MR. HILLEGAS: Objection; form. 22 A. What was provided in the list of litigants 23 had no job titles. 24 Q. In terms of the 141 total custodians, do 25 you have an opinion on what percentage of them used</p>
<p style="text-align: right;">Page 199</p> <p>1 that period were not preserved. 2 Do you recall that? 3 A. Yes. 4 Q. Can you testify with reasonable certainty 5 that even one of those messages had something to do 6 with what this lawsuit is about? 7 A. I'm not really here to opine on the 8 pertinency of chats. I'm not a lawyer. But in 9 searching for his chats, I did use one of his 10 pertinent conversations that were produced by Google 11 to reference that back to the Log Dataset. 12 Initially I was not understanding how the 13 chime renders were working because I was seeing way 14 too many of them in the dataset. Using these logs I 15 was able to match them back directly and figure out 16 that there's a number of "sents" in the dataset, not 17 just one. 18 Q. Okay. And we will talk about I think what 19 you're pointing to, that is what you described as a 20 pertinent conversation. 21 Am I right that you believe it's pertinent 22 because it was produced in this lawsuit? 23 A. Google produced it so I assumed it was 24 pertinent. 25 Q. Is that an assumption that you used in</p>	<p style="text-align: right;">Page 201</p> <p>1 Chat mainly for non-business conversation? 2 A. I have no opinion on that. 3 Q. Do you have an opinion on what percentage 4 of them had a practice of toggling history on when 5 discussing some topic relevant to this lawsuit? 6 A. I have no data on that. 7 Q. There is a -- I'll skip that. 8 Do you know whether -- sorry to toggle 9 back to the five custodians in the dataset. For 10 those five, did you endeavor to find out whether any 11 of them were part of Chat rooms or spaces that were 12 like affinity-based, that is based on some 13 characteristic or hobby rather than business? Like 14 a group for runners, for example. 15 A. No. The metadata only included [REDACTED] 16 [REDACTED] No content was inside of it. 17 Q. Okay. I want to ask you a few questions 18 about your opinion on how easy or difficult it would 19 have been to make the changes that were made in 20 February of 2023 earlier. 21 Do you generally understand what I'm 22 talking about? 23 A. Yes. 24 Q. Okay. So you opine that the enterprise 25 version of Chat allowed customers to restrict users</p>



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<p>1 from toggling history off at an earlier time frame. 2 I first want to look at your report, page 11, 3 paragraph 18. October report, Exhibit 1. 4 A. Supplemental report. I am there. 5 Q. So in the last sentence that starts on 6 this page you say that the enterprise version 7 allowed customers to restrict from toggling off as 8 early as October 2020. So I'm going to pause there. 9 Has that opinion changed since your 10 October report? Are you going with earlier dates 11 now? 12 A. As I recall, this was the first web 13 archive hit I found for this. 14 Q. And did that web archive hit provide ways 15 for third parties using the Google Chat to 16 individually toggle history on and off for 17 particular users? 18 A. I don't know who would be a third party in 19 this case. 20 Q. I'm sorry. A customer, someone using 21 Google's Chat. Let's back up. 22 When you said the enterprise version, are 23 you talking about the product that Google provides 24 for other companies to use, like in their business? 25 A. Yes.</p>	<p>1 A. I don't know. I never administered the 2 Google work spaces. 3 Q. Well, in your reply report, that is the 4 December report, Exhibit 2, page 10. 5 MS. NAJAM: I have also raised my 6 voice because there has been conversation in the 7 hallway. But I'm going to keep my voice down and if 8 you can't hear me because of the conversation, we'll 9 just pause and go off the record. 10 MR. HILLEGAS: I'll do my best not to 11 object. 12 Q. Paragraph 22, in your third sentence, you 13 say, As far as back as 2013, Google had already 14 created and advertised the required functionality. 15 You can read the rest of the sentence to yourself. 16 Just to clarify, is it your opinion that 17 in 2013, Google already had the capability 18 internally to set the default to "on" and 19 selectively prevent certain employees from turning 20 history to "off"? 21 A. The water is getting a little muddy 22 because I'm not certain that work spaces always 23 included Hangouts because Hangouts was a different 24 product and then it was migrated. So I cannot be 25 certain.</p>
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<p>1 Q. Okay. So that's what I meant by third 2 party. Sorry. 3 If I'm a company using Google Chat, is it 4 your opinion that I would have been as early as 5 October 2020 able to selectively pick users who 6 cannot turn history off? 7 A. As I recall, that was an administrator 8 option. 9 Q. And your support for that is this Wayback 10 Machine version of this Google support page in 11 Footnote 37? 12 A. Yes. 13 Q. Do you know as of any point in time 14 whether there were differences between the 15 enterprise version of Chat versus what Google was 16 using internally? 17 A. I have no visibility into the products 18 they were using internally. 19 Q. Okay. Let me ask you this: Sitting here 20 today, if I -- I'm a company, I'm at my law firm and 21 I'm using the enterprise version of Google Chat. 22 Can I as the administrator, can I restrict toggling 23 off history for just some of my employees but not 24 others or do you know the answer to that? 25 MR. HILLEGAS: Objection; form.</p>	<p>1 Q. Okay. And then same question about what 2 you're saying in 2015. The next sentence, you talk 3 about Google advertising administrator's ability to 4 force the history to be on or off. And then look at 5 your last sentence. You say that by 2015, Google 6 had done the work to allow customers to prevent 7 specific employees from turning off Chat history. 8 A. That's correct. 9 Q. Okay. So is it your opinion that what you 10 cite in Footnote 23 shows that customers using 11 Google Chat had that ability, that is, to prevent 12 just certain employees from toggling off? 13 A. As I understand the administration 14 policies, yes. 15 Q. But what you cite here -- I'll just give 16 it to you. Hold on. I'm handing you what I'm 17 marking as Exhibit 9. And this is what -- sorry. 18 Exhibit 9 is what you're citing in 19 Footnote 23, right? 20 (Exhibit 9 marked.) 21 A. Yes. 22 Q. So if we look at page 2 of the exhibit, 23 there is a box there at the bottom. And at the 24 bottom under Chat history, there's a button where 25 the administrator can decide is history going to be</p>

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<p>1 on or is history going to be off. 2 Am I reading this correctly, the same way 3 you read it? 4 A. That is correct. 5 Q. And underneath that there's a box that 6 says, Don't allow users to change this setting. And 7 in this example it has been clicked. 8 Do you see that? 9 A. That's correct. 10 Q. But, Professor Hochstetler, where in this 11 policy does it say that the administrator back in 12 2015 can decide on a user-by-user basis whether they 13 can change that setting? 14 A. The locally applied in the corner. If 15 it's globally applied, it would be for all users was 16 my understanding. 17 Q. Where did you get the understanding that 18 the term "locally applied" means the administrator 19 is doing this on a user-by-user basis? 20 A. It would be local to the user, the local 21 Chat of the user. 22 Q. Right. But what is your basis for 23 thinking that? 24 A. The word "local" means specifically to 25 that, so to that Chat --</p>	<p>1 locally as in on a user-by-user basis decide whether 2 the user could change the setting from history on to 3 off? 4 A. That's correct. 5 Q. Well, let's look at the other one you 6 cited then. I'm handing you Exhibit 10. 7 (Exhibit 10 marked.) 8 THE WITNESS: I think we have a 9 five-minute for break. 10 MR. HILLEGAS: We have been on the 11 record for about an hour. I don't know where the 12 five-minute warning came from. 13 THE WITNESS: Oh, just like in five 14 minutes wind it down I guess. 15 MS. NAJAM: Am I out of time? 16 MR. HILLEGAS: No. No. We have been 17 on the record for about an hour. He needs a rest 18 room break. 19 Q. Got it. Okay. 20 I just handed you what I marked as Exhibit 21 10. During that back and forth I may have given you 22 the wrong copy. Give me a second. 23 MR. HILLEGAS: Is that the 2013 24 version or 2015 version you have there? 25 THE WITNESS: This is '13.</p>
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<p>1 Q. So -- 2 A. -- as opposed to a global setting across 3 all chats. 4 Q. So your understanding is that an 5 administrator would have an option like what we're 6 looking at on page 2 for -- let's say, a company has 7 20,000 -- sorry, like a million employees, that 8 there would be a million such boxes, a million such 9 settings locally applied to each individual 10 employee? 11 A. Normally you would do this with an API or 12 a policy document. For a smaller businesses, you 13 would be clicking web forms. But for larger 14 enterprises, there would be a policy document which 15 could be -- OPA pushes them out a lot. But it's 16 really some sort of RBAC control that policy would 17 push down onto specific users. 18 Q. Look at the very bottom where the box is 19 checked. It doesn't say don't allow user to change 20 this setting, does it? 21 A. Correct. 22 Q. It says users, right? 23 A. Yes. 24 Q. But you're -- you're sticking with the 25 understanding that an administrator was able to --</p>	<p>1 Q. For the record, what I just handed you was 2 a 2013 version that's referenced in Footnote 22. If 3 you could just confirm that for me. 4 A. That's correct. 5 Q. And can you point me to what language in 6 here makes you think that in 2013 the enterprise 7 version administrators could on a user-by-user basis 8 restrict changing retention settings? 9 A. The first line, which Hangout features are 10 available to which employees. To me that's a 11 qualifier. 12 Q. So you read feature to mean -- to include 13 turning off Retention Settings; is that accurate? 14 A. Yes. And any other features that would 15 have been released in this time frame. 16 Q. So an example of a Hangout feature would 17 be video and audio Chat, right? I think you said 18 that earlier in the deposition. 19 MR. HILLEGAS: Objection; form. 20 A. I believe Hangout had that. 21 Q. And this same post notes that those two 22 features can also be turned off across the 23 organization. 24 Do you see that in the -- sorry, last 25 sentence of the first paragraph?</p>

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<p style="text-align: right;">Page 210</p> <p>1 A. Yes. That would be globally flipping a 2 switch. 3 Q. So is it possible that the first sentence 4 was talking about those kind of features that admins 5 can decide which are available to which employee, 6 features like audio Chat and video Chat? 7 A. It doesn't specifically say. The previous 8 sentence says, they chose to limit Hangout Chat 9 messages to be internal only so you can't message 10 people outside your organization. Set Chat history 11 off to by default and decide which users within the 12 domain can contact each other without sending or 13 accepting formal invitations first. 14 Because I think back then Hangouts was -- 15 you had to send a request to someone and then they 16 would accept it. But if you're using the admin 17 version at this point, you could say, no, we're in 18 the same domain, you don't need to send requests 19 every time you want to Chat with a new person. 20 Q. Is this 2013 blog post that we're looking 21 at in Exhibit -- 22 MR. HILLEGAS: I think 10. 23 Q. -- 10, is that your only basis for opining 24 that back in 2013 Google could readily decide -- or 25 sorry, select particular employees who can't turn</p>	<p style="text-align: right;">Page 212</p> <p>1 users who couldn't turn history off? 2 A. No. 3 Q. And are you disputing [REDACTED] 4 testimony that it took hundreds of hours of work to 5 roll out the change that happened in February of 6 '23? 7 A. I want to be very precise. I'm not 8 disputing his testimony. It is my understanding 9 that the outsider version, for a better term, of 10 Google Chat is based off of the enterprise or 11 internal Google Chat. 12 Q. I'm sorry. When you use "enterprise 13 version" in your reports, were you talking about the 14 internal version or the version used by other 15 companies, not Google? 16 A. As I recall, when I refer to "enterprise," 17 I'm referring to the internal Google Chat that has 18 changed over time from the original to Hangouts to 19 Chat and then integrated into the outside product 20 Google Workspace. 21 Q. Are you sure? 22 MR. HILLEGAS: Objection; form. 23 Q. Otherwise we can -- look at your October 24 report, page 11. It's the sentence we already read. 25 It's paragraph 18. You say, Note that the</p>
<p style="text-align: right;">Page 211</p> <p>1 off their retention? 2 A. As I recall, this is the only document 3 from this time period referencing it. 4 Q. Besides Exhibits 9 and 10, do you have any 5 other basis to conclude that the enterprise version 6 of Google Chat prior to today had the option for 7 administrators to select searching users and prevent 8 them from changing the history setting from "on" to 9 "off"? 10 A. Now we have been speaking about Exhibits 9 11 and 10, the product that Google would sell to 12 customers. By enterprise version, do you mean this 13 version or the version internally to Google? 14 Q. You used the word "enterprise version" in 15 your report. And I think we established when you 16 used that phrase, you were talking about the version 17 available to other companies who are using Google's 18 Chat tool. 19 Do you recall that? 20 A. Yes. 21 Q. Okay. So I'll re-ask the question. 22 For the outside -- I'm going to call it 23 the outside version of Chat, besides Exhibit 9 and 24 10, can you point to anything else to show that the 25 outside version allowed admin to selectively pick</p>	<p style="text-align: right;">Page 213</p> <p>1 enterprise version of Google Workspace, a collection 2 of productivity and collaboration tools including 3 Google Chat, allowed customers to restrict users, 4 et cetera. 5 A. So the enterprise version is the internal 6 version that is also a product that Google sells, 7 but you as a small business could sign up for 8 Workspace and have different features, as I 9 understand. It's not tiered. 10 Q. Do you have an opinion on whether prior to 11 2023 Google already had the capability for the 12 administrator of the internal version to just turn 13 it on as a default and also selectively pick users 14 who cannot turn it off, "off" being history? 15 MR. HILLEGAS: Objection; form. 16 A. No. 17 Q. And so I had asked you about one thing 18 that [REDACTED] testified about. I want to ask you 19 about one more thing and then I promise we'll take a 20 break. 21 Did you read [REDACTED] testimony that 22 what Google has now done internally with its Chat 23 retention settings as of February 2023 is something 24 that its Workspace customers cannot do? 25 A. I don't recall that.</p>

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<p style="text-align: right;">Page 214</p> <p>1 Q. So do you have an expert opinion on 2 whether [REDACTED] is wrong to the extent that's what 3 he testified? 4 A. No, I have no visibility into their 5 internal systems. 6 MS. NAJAM: All right. We can take a 7 break. 8 THE VIDEOGRAPHER: Off the record, 9 3:49. 10 (Recess 3:49 p.m. to 4:08 p.m.) 11 THE VIDEOGRAPHER: On the record. The 12 time is 4:08. 13 Q. Dr. Hochstetler, before we move on to a 14 different topic, I over the break did go back and I 15 needed to clarify one thing. 16 I want you to put the Log Dataset aside 17 and I have a question about general principles of 18 statistics. 19 If the sample is not representative of the 20 population, in other words, there's something 21 different about the sample, can we draw reliable 22 conclusions from the sample to apply to the entire 23 population? 24 A. So in general not talking about this Log 25 Dataset or this case.</p>	<p style="text-align: right;">Page 216</p> <p>1 here. Let's look at your October report, which is 2 Exhibit 1, page 5. 3 A. Supplemental report. 4 Q. I'm sorry. I meant page 35, paragraph 67. 5 In the second sentence you write that your goal was 6 to identify logs corresponding to the produced 7 conversations and determine whether any of them had 8 retention settings toggled "off" at any point. The 9 latter would indicate that not all messages relevant 10 to this matter were preserved or made available. 11 Did I read that right? 12 A. Yes. 13 Q. Okay. And I believe you testified earlier 14 that you, for purposes of this case, assumed that if 15 a Chat conversation was produced in this lawsuit, 16 then it must be -- I believe you used the word 17 "pertinent" to this lawsuit; is that right? 18 A. Yes. 19 Q. Okay. So let's take the hypothetical 20 example. Let's say the group is me, yourself, and 21 Mr. Hillegas, who I called Peter earlier and I 22 should not have. It's disrespectful. 23 Okay. So the three of us are in a group 24 and let's say a conversation was produced in the 25 lawsuit including the three of us. For your</p>
<p style="text-align: right;">Page 215</p> <p>1 Q. Correct. 2 A. You can with corrections. You can feature 3 engineer specific hyper fields and that's something 4 you would do in larger data mining systems if you 5 can not get a clean dataset or if your dataset is 6 severely lopsided. If you have got a lot of false 7 positives or true positives like -- what's a good 8 example. Cancer detection. 9 So if you have 100,000 scans of chest 10 x-rays, only a few are going to have lung cancer so 11 those aren't representative of the whole. You can 12 feature engineer ways around that to not only boost 13 those but produce proper data mining techniques to 14 make those significant. 15 Q. So to recap that in layperson's terms, if 16 your sample is unrepresentative in that it is 17 different from the rest of the population, you can 18 theoretically draw reliable conclusions if you're 19 able to make corrections to correct for the lopsided 20 nature; is that accurate? 21 MR. HILLEGAS: Objection; form. 22 A. Yes, that's in a nutshell the basis of 23 data mining. 24 Q. Okay. As promised, we are going to switch 25 subjects. Before the last break -- let's start</p>	<p style="text-align: right;">Page 217</p> <p>1 analysis purposes, that would be a pertinent 2 conversation; is that true? 3 MR. HILLEGAS: Objection; form. 4 A. Yes. 5 Q. Okay. And am I right that you then -- 6 sticking with that example. If within the [REDACTED] 7 associated with me, yourself, and Mr. Hillegas, if 8 that [REDACTED] had history "off" and a message was 9 sent, then you have concluded a relevant Chat 10 message wasn't preserved during the log period, 11 true? 12 A. That Chat message was relevant to the 13 dataset because I could see the "send" and a couple 14 times I was able to see "receives" for that with 15 that history set to "off." 16 Q. In our example, in our group ID, let's say 17 I sent a message and the history was "off." Later 18 in that group I sent a message and it was produced 19 in this lawsuit. 20 Did you assume that the history off 21 message was relevant? 22 A. If the history was off, I'm not certain 23 how it would have been produced by normal means. 24 Q. So in my example, let's say there's a 25 total of three messages. Your log data showed that</p>

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<p style="text-align: right;">Page 218</p> <p>1 for messages 1 and 2 history was off. 2 Are you with me so far? 3 A. Yes. 4 Q. And then there was a -- the log showed 5 that for message 3 history was on. That would be in 6 your Log Dataset, right? 7 A. Correct. 8 Q. And then message number 3 would be 9 produced in some conversation in this lawsuit. 10 Are you with me so far? 11 A. Yes. 12 Q. In that example, did you assume that 13 messages 1 and 2 were pertinent to this lawsuit? 14 A. No, I didn't make any opinion on them 15 being pertinent. 16 Q. What was the basis for your understanding 17 that if a conversation was produced in this lawsuit, 18 that means it is pertinent to the lawsuit? 19 A. I understood that if Google produced it, 20 they had done checks to make sure it was pertinent. 21 Q. Was that the sole basis of your 22 understanding? Sorry. 23 My question is: What is the basis of that 24 assumption, that if Google produced it, it must be 25 pertinent to the issues in the lawsuit?</p>	<p style="text-align: right;">Page 220</p> <p>1 sorry, 13 and 14 and I used that for timing. And it 2 is one of these messages that's a hit with the word 3 "history." And we talked about it before. It's the 4 happy birthday message and then they say, why is 5 history on here, and I used that timing to the logs. 6 Q. My question was a little different. 7 Isn't it true that it was after your 8 October report that you learned that certain 9 documents were produced in this case only because 10 they contained "history on" or "history off" even 11 though they didn't relate to Display Ads? 12 MR. HILLEGAS: Objection to form. 13 A. I believe Figure 13 was only produced 14 because of history on. 15 Q. Do you want me to rephrase my question? 16 I asked you earlier if you were aware of 17 an agreement wherein Google would produce documents 18 in this case solely because they were produced in 19 some other case, and your answer to that is you were 20 not aware, true? 21 A. Correct. 22 Q. Were you aware of a certain number of Chat 23 conversations that were produced in this case only 24 because they contained history on, history off, even 25 though they have nothing to do with Display Ads?</p>
<p style="text-align: right;">Page 219</p> <p>1 A. Why would they produce documents that 2 aren't pertinent. My reasoning is why would they 3 produce documents that aren't pertinent. 4 Q. Before issuing your October report, were 5 you aware of an agreement that documents would be 6 produced in this case solely because they were 7 produced in some other case? 8 A. Wasn't part of my assignment. 9 Q. I'm just asking if you were aware of any 10 such agreement. 11 A. No, it wasn't part of my assignment. 12 Q. Were you aware that documents -- sorry, 13 Chat conversations were produced in this lawsuit 14 solely because they hit on phrases like "history on" 15 or "history off," whether those had to do with 16 Display Ads or not? 17 A. Yes. 18 Q. When did you learn that? 19 A. I believe the timing may be in between 20 Malkiewicz and writing the declaration. This is a 21 very compressed time frame so timing is fuzzy. 22 Q. So you learned that after issuing your 23 October report, true? 24 A. Yes. Although I believe I did hit on one 25 message because I use that for timing, Figures 12 --</p>	<p style="text-align: right;">Page 221</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. I have no idea about the only, in quotes. 3 Q. Okay. 4 A. Figure 13 could be produced only because 5 of that. I'm not certain. 6 Q. Understood. Let's move to your December 7 report, which is Exhibit 2, page 5. 8 A. This is the reply. 9 Q. Yes. In paragraph G that's on that page, 10 that's 9(g), your fourth sentence says, In other 11 words, relevant messages were lots (sic), but not 12 all lost messages were relevant. 13 When I said lots, that's how it's written 14 here but that's a typo, right? 15 A. Yes. 16 Q. Okay. So when you opined back in October 17 that roughly 1.5 million Chat messages by litigation 18 hold employees were lost per year, just to clarify, 19 you're not telling the Court that in your opinion 20 all of them were actually relevant to this lawsuit, 21 correct? 22 A. Correct. I have no opinion on the 23 pertinency and have no visibility into the content 24 of those. 25 Q. And you don't have an expert opinion on</p>

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<p style="text-align: right;">Page 222</p> <p>1 like a specific number or percentage of the, as you 2 say, 1.5 million per year that were, in fact, 3 pertinent to this lawsuit, true? 4 A. Correct, that wasn't part of my 5 assignment. 6 Q. Are you assuming it's something more than 7 zero? 8 MR. HILLEGAS: Objection; form. 9 A. I don't believe I made any assumptions. 10 Q. Well, in paragraph G you say, relevant 11 messages were lost, once correcting for the typo, 12 right? 13 A. They were relevant in the context of the 14 dataset. 15 Q. Oh, that's what you mean when you say 16 relevant messages were lost? 17 A. Yes, I believe I stated that earlier. We 18 made the distinction between relative and pertinent. 19 Q. Okay. So there's a few places in your 20 reports where you talk about messages that were not 21 preserved that were relevant. 22 Just to clarify, all those references 23 are -- you mean relevant to your dataset? 24 A. Correct, that's the only visibility I 25 have.</p>	<p style="text-align: right;">Page 224</p> <p>1 retained was extremely high. 2 Do you see that? 3 A. Yes. 4 Q. Can you please explain what you mean by 5 "should have been retained"? 6 A. As I understand, because these messages 7 had history set to "off," there was no way for any 8 of them to be available to Vault even within the one 9 day, 24-hour period. 10 Q. What is your expert opinion on why they 11 should have been made available to Vault or do you 12 have one? 13 A. As I understand, these individuals were 14 under -- these five were under litigation hold. 15 Q. Was it your understanding that being under 16 litigation hold means never send an off-the-record 17 Chat? 18 A. Not necessarily. 19 Q. Okay. So help me understand why you 20 believe that a Chat sent by someone on hold during 21 the log period, quote, should have been retained. 22 A. Without the e [REDACTED] 23 [REDACTED] therefore, been 24 available to be picked up by Vault. 25 Q. When you wrote "should have been</p>
<p style="text-align: right;">Page 223</p> <p>1 Q. Okay. So you don't have any opinion on 2 whether any messages that were relevant to this 3 lawsuit were, in fact, unpreserved, whether in the 4 log period or otherwise? 5 MR. HILLEGAS: Objection; form. 6 A. And we're not talking about relevant to 7 the dataset, correct? 8 Q. Correct. 9 A. Yes. 10 Q. So just to -- sorry, to take it a little 11 bit further. 12 Do you have an opinion on whether a 13 hypothetical Chat message like "nice tie" is 14 relevant to the lawsuit? 15 A. I have no opinion on that. 16 Q. Okay. But if someone sent such a message 17 and we didn't know the content and it was sent 18 during the log period with history off, then in your 19 analysis that would be relevant to the dataset? 20 A. Yes. 21 Q. Got it. Let's go back to your October 22 report. Sorry to go back and forth. I'm going to 23 go to page 42, paragraph 81(b). 24 You say, As a result, the volume of 25 individual messages lost that should have been</p>	<p style="text-align: right;">Page 225</p> <p>1 retained," did you mean would have been retained had 2 the retention settings been different? 3 A. As I understand how Vault works, even if 4 it was set to 24 hours, they still would not have 5 been available and Vault wouldn't have picked them 6 up. 7 Q. If that person was on hold and history was 8 on, then Vault would have preserved it, true? 9 A. Yes, there's varying days. I believe 30 10 days and then 18 months for group DMs, I believe. 11 Q. So to answer my question, with history on, 12 if a person was on hold, as you understand the 13 policy, that message would have been preserved, 14 right? 15 A. Yes. 16 Q. In other words, it's only the "history 17 off" messages that never made their way into Vault, 18 right? 19 A. Correct. 20 Q. Okay. So, sir, what I'm having trouble 21 with is back to the wording you used in your report, 22 what is the standard that you use when you said a 23 bunch of messages were lost that, quote, should have 24 been retained? Should have according to what 25 standard?</p>

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<p style="text-align: right;">Page 226</p> <p>1 MR. HILLEGAS: Objection; form.</p> <p>2 A. I'm not understanding the question about a</p> <p>3 standard.</p> <p>4 Q. So when you wrote "should have," should</p> <p>5 means this is something that a person in my opinion</p> <p>6 doing the right thing would do.</p> <p>7 Is that accurate, that's what the word</p> <p>8 should means?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. Yes.</p> <p>11 Q. So I am asking according to what reasoning</p> <p>12 should a particular message be sent with history on</p> <p>13 that didn't happen here?</p> <p>14 A. I think a particular -- taking into</p> <p>15 context, this is referring to the change in</p> <p>16 February 8th when all litigants were forced to have</p> <p>17 [REDACTED].</p> <p>18 Q. Okay. Your opinion about individual</p> <p>19 messages lost, those are messages that were lost</p> <p>20 before February 8th, right?</p> <p>21 A. Correct.</p> <p>22 Q. Sir, are you qualified to tell the Court</p> <p>23 whether a particular Chat message sent before that</p> <p>24 date should have had history on versus off?</p> <p>25 MR. HILLEGAS: Objection; form.</p>	<p style="text-align: right;">Page 228</p> <p>1 preservation are you using in this opinion?</p> <p>2 A. My reasoning.</p> <p>3 Q. Are you drawing on any expertise or</p> <p>4 standards to find the preservation was not adequate?</p> <p>5 A. I don't cite to anything here.</p> <p>6 Q. Sitting here in your deposition, can you</p> <p>7 cite to any standard, legal standard, industry</p> <p>8 standard to opine that Google's preservation of Chat</p> <p>9 messages was inadequate?</p> <p>10 A. No.</p> <p>11 Q. Are you even qualified to give that</p> <p>12 opinion?</p> <p>13 MR. HILLEGAS: Objection; form.</p> <p>14 A. I don't have a standard to cite to, so I</p> <p>15 don't believe I can provide any basis for that</p> <p>16 beyond what Mr. Malkiewicz stated.</p> <p>17 Q. And I'm not looking for a basis. I'm</p> <p>18 asking whether -- do you believe you have the</p> <p>19 education, training, and experience to give an</p> <p>20 opinion to the Court in this case about whether</p> <p>21 Google's Chat preservation practices were adequate?</p> <p>22 MR. HILLEGAS: Objection; form.</p> <p>23 A. Based upon industry experience, yes.</p> <p>24 Q. Tell me all the industry experience that</p> <p>25 renders you an expert in Chat preservation</p>
<p style="text-align: right;">Page 227</p> <p>1 A. That was not part of my assignment.</p> <p>2 Q. Is it -- are you qualified to give that</p> <p>3 opinion?</p> <p>4 MR. HILLEGAS: Objection; form.</p> <p>5 A. I am not a lawyer.</p> <p>6 Q. So you're not qualified to give the</p> <p>7 opinion?</p> <p>8 MR. HILLEGAS: Objection; form.</p> <p>9 A. Of a pertinent message, no.</p> <p>10 Q. And when you opined that Google has failed</p> <p>11 to adequately preserve messages -- I'm going to ask</p> <p>12 a similar question -- what definition of adequate</p> <p>13 are you using?</p> <p>14 I'm not plucking that from your October</p> <p>15 report. It's in your reply report. Do you need to</p> <p>16 look at it?</p> <p>17 A. Sure.</p> <p>18 Q. Exhibit 2, paragraph 21.</p> <p>19 A. Mr. Malkiewicz, however, agrees with me</p> <p>20 that Google has failed to adequately preserve</p> <p>21 messages. In other words, there's no way to</p> <p>22 preserve or restore messages that were sent while</p> <p>23 the Chat history was off.</p> <p>24 Q. So putting aside whether he agrees with</p> <p>25 you or not, what -- what standard of adequate</p>	<p style="text-align: right;">Page 229</p> <p>1 practices.</p> <p>2 A. So starting off, I spoke about IRC which</p> <p>3 was through MIRC, M-I-R-C. Those chats had</p> <p>4 preserved for not only target deconfliction but</p> <p>5 for -- how do I phrase this without walking</p> <p>6 across -- for different allied countries to</p> <p>7 coordinate. Those had to be retained properly by</p> <p>8 governance.</p> <p>9 Working later, I have worked with many FBI</p> <p>10 CART teams on preservation of emails and chats. And</p> <p>11 I believe I talked about taking yearly training</p> <p>12 regarding data governance and communication with</p> <p>13 respect to FINRA and other regulatory bodies.</p> <p>14 Q. Okay. I hate to revisit stuff we have</p> <p>15 already covered.</p> <p>16 The first thing you talked about, IRC,</p> <p>17 what does that stand for?</p> <p>18 A. Internet relay Chat.</p> <p>19 Q. Did you say Internet relay Chat?</p> <p>20 A. That's correct. This was based on the</p> <p>21 Chandra protocol which was a late '90s protocol and</p> <p>22 it was used for both one-to-one communication and</p> <p>23 also group chats.</p> <p>24 Q. Okay. I'm not following on what your</p> <p>25 specific experience was in terms of preserving Chat</p>

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<p style="text-align: right;">Page 230</p> <p>1 messages.</p> <p>2 A. I was one of the people responsible for</p> <p>3 managing and administrating the system to preserve</p> <p>4 the chats.</p> <p>5 Q. But it was governance who came up with the</p> <p>6 policies on preservation; is that right?</p> <p>7 A. Yes.</p> <p>8 Q. And you were not a part of governance,</p> <p>9 were you?</p> <p>10 A. Correct.</p> <p>11 Q. So you were just carrying out a governance</p> <p>12 of instructions in terms of preserving whatever Chat</p> <p>13 messages they said needed to be retained; is that</p> <p>14 accurate?</p> <p>15 A. It's 90 percent accurate.</p> <p>16 Q. What's the other 10?</p> <p>17 A. We worked as a team. They always didn't</p> <p>18 have visibility into all the spaces. So I would</p> <p>19 have to coordinate with them and develop specific</p> <p>20 things for specific networks on retention.</p> <p>21 Q. Okay. And the company was MIRC you said?</p> <p>22 A. MIRC is a client.</p> <p>23 Q. MIRC was the client for whom --</p> <p>24 A. The client application.</p> <p>25 Q. I'm not following any of this. I'm sorry.</p>	<p style="text-align: right;">Page 232</p> <p>1 A. They're a forensic investigation team.</p> <p>2 Q. Were you involved in coming up with Chat</p> <p>3 preservation policies?</p> <p>4 A. Each team had their own policies based</p> <p>5 upon the investigation and the parties involved.</p> <p>6 Q. Did you -- were you involved in coming up</p> <p>7 with any teams' policy of preservation of Chat</p> <p>8 messages?</p> <p>9 A. Yes.</p> <p>10 Q. What was your involvement?</p> <p>11 A. Technical implementation. Being in a</p> <p>12 location we were at, we did not have massive amounts</p> <p>13 of storage. Things like shipping us hard drives</p> <p>14 would take sometimes two months so we had to be</p> <p>15 specific about what was retained.</p> <p>16 Q. And you were involved in coming up with</p> <p>17 what was going to be retained; is that accurate?</p> <p>18 A. I would help inform the decision.</p> <p>19 Q. So you were not the decision-maker but you</p> <p>20 consulted on the topics, accurate?</p> <p>21 A. Correct.</p> <p>22 Q. Okay. And the yearly training I think we</p> <p>23 have covered. You're talking about the yearly</p> <p>24 training you receive today -- until today at</p> <p>25 Fidelity; is that accurate?</p>
<p style="text-align: right;">Page 231</p> <p>1 Okay. We're going to need to walk back.</p> <p>2 For whom were you -- whose -- whose Chat</p> <p>3 messages were at issue here?</p> <p>4 A. Undisclosed individuals in Southwest Asia.</p> <p>5 Q. Who was your employer at the time?</p> <p>6 A. My employer at the time was the U.S. Air</p> <p>7 Force.</p> <p>8 MR. HILLEGAS: We're getting into</p> <p>9 military matters. I'm going to caution the witness</p> <p>10 not to disclose anything covered by security</p> <p>11 clearances or confidentiality.</p> <p>12 Q. Okay. Are you able to tell us whether</p> <p>13 there were differences between the litigation holds</p> <p>14 in this matter versus the instructions given in</p> <p>15 connection with the undisclosed folks in South</p> <p>16 Asia -- Southeast Asia?</p> <p>17 A. There was no restriction on or</p> <p>18 instructions to not use Chat.</p> <p>19 Q. In the MIRC Southeast Asia --</p> <p>20 A. Southwest Asia.</p> <p>21 Q. -- Southwest Asia. Okay. All right.</p> <p>22 Let's go through the second example.</p> <p>23 Are you saying CART teams, C-A-R-T?</p> <p>24 A. That's correct.</p> <p>25 Q. What's a CART team?</p>	<p style="text-align: right;">Page 233</p> <p>1 A. Yes.</p> <p>2 Q. Okay. So I hate to try to recap this</p> <p>3 again. But are you saying you are an expert in</p> <p>4 whether a company is complying with its discovery</p> <p>5 obligations in litigation with respect to retaining</p> <p>6 Chat messages?</p> <p>7 A. That wasn't part of my assignment.</p> <p>8 Q. I'm not asking if you were it was part of</p> <p>9 your assignment. I think we have seen some stray</p> <p>10 references and that's why I'm asking.</p> <p>11 Would you be qualified to tell this Court</p> <p>12 in this case that there's something wrong with the</p> <p>13 way Google preserved or failed to preserve Chat</p> <p>14 messages under the applicable legal standard?</p> <p>15 MR. HILLEGAS: Objection; form.</p> <p>16 A. Can you restate the question?</p> <p>17 Q. Do you know what legal standards govern a</p> <p>18 company in litigation in the United States -- or</p> <p>19 sorry, a company anticipating or in litigation in</p> <p>20 the U.S.?</p> <p>21 MR. HILLEGAS: Objection; form.</p> <p>22 A. No, I'm not a lawyer.</p> <p>23 Q. Are you qualified to tell this court that</p> <p>24 Google failed to adequately preserve Chat messages</p> <p>25 pursuant to whatever applicable standards apply?</p>

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<p style="text-align: right;">Page 234</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. It was not part of my assignment. 3 Q. And I'm not asking you whether someone 4 asked you to do it here. 5 Are you even qualified to do it is my 6 question? 7 MR. HILLEGAS: Objection; form. 8 A. It was not part of my assignment. 9 Q. You won't answer my question whether 10 you're qualified or not? 11 A. I have an opinion about the dataset which 12 was part of my assignment. 13 MS. NAJAM: Object to that as 14 nonresponsive, but we can move on. 15 Q. Let's go to your October report that you 16 call your supplemental report, Exhibit 1, page 35, 17 starting with paragraph 68. 18 Sir, I think you referenced this earlier. 19 But there is one Chat group where it had a 20 conversation produced that included Mr. Pichai where 21 you opined that 300 messages were lost. 22 Did I summarize that accurately? 23 A. Is this the triple A group? 24 Q. Are you asking me? 25 A. You said paragraph 68. I don't see where</p>	<p style="text-align: right;">Page 236</p> <p>1 Q. As I understand your opinions today, you 2 are saying that you are not opining that these 3 unsent -- sorry, unsaved messages, this 86 percent, 4 you're not here telling the Court that they were 5 relevant to this litigation; is that true? 6 A. That they were pertinent. I don't know. 7 I think I have one example from that -- from that 8 AAA group which was on the next page. No, back. 9 Yeah, Figure 11. 10 And as I recall, this is -- yeah, this is 11 from the same III group with the redactions in the 12 middle of it. So this was a produced Chat that 13 was -- my assumption, if it's produced, it's 14 pertinent. 15 Q. Okay. Did you actually go through the 16 Chat and make a determination on whether even one of 17 the produced messages related to ad tech or the 18 display ad's business? 19 A. No, I did not. 20 Q. Is it possible that literally none of the 21 messages in that produced conversation had anything 22 to do with the topics of this lawsuit? 23 MR. HILLEGAS: Objection; form. 24 A. Possibly but highly unlikely. 25 Q. Let me hand it to you then. I'm marking</p>
<p style="text-align: right;">Page 235</p> <p>1 I say 300. 2 Q. If you skip to paragraph -- sorry, it's 3 taking me a second. Paragraph 77. Do you recall -- 4 I'll ask a better question. 5 Do you recall that for a Chat conversation 6 that was produced that spanned December 8 to 7 December 9, 2022, that included Mr. Pichai, you 8 offer the opinion that 86 percent of a total of 9 around 387 messages were sent with history off? 10 A. That's correct. 11 Q. And then you opine, Consequently, messages 12 relevant to this litigation were lost due to the 13 toggle of the Retention Setting. 14 Do you see that? 15 A. Yes. 16 Q. As you established today, you actually do 17 not have any opinions on whether the unpreserved 18 messages were relevant to this lawsuit, right? 19 A. Relevant means to the dataset. 20 Q. I hear that you're saying today. But in 21 your report you wrote the words relevant to this 22 litigation. 23 Do you see that? 24 A. Yes, the context is this dataset, the Log 25 Dataset.</p>	<p style="text-align: right;">Page 237</p> <p>1 that as Exhibit 11. 2 (Exhibit 11 marked.) 3 THE WITNESS: Do these other ones 4 need -- 5 MS. NAJAM: Just pass them down. 6 THE WITNESS: They don't need 7 stickers? 8 MS. NAJAM: No. 9 Q. So can you just confirm for the record 10 that Exhibit 11 is the produced Chat conversation 11 that you excerpted in Figure 11? 12 A. Yes. 13 Q. Can you point us to any message in this 14 produced conversation that has to do with Display 15 Ads or advertising technology? 16 A. (Reviewed document.) I didn't see 17 anything related with the word ad tech. 18 Q. I think we have established this. But 19 you're familiar with the various Google -- you're 20 familiar with Google's ad tech stack, right? 21 A. Yes. 22 Q. You're familiar with its publishers -- 23 publisher-facing tools, its advertiser-facing tools, 24 its ad exchange. I'll pause there. 25 You're familiar with how they work?</p>

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<p style="text-align: right;">Page 238</p> <p>1 A. Yes.</p> <p>2 Q. And so are you familiar with some of the</p> <p>3 features that are at issue in this lawsuit, like</p> <p>4 Bernanke or RPO or DRS? Do these all sound familiar</p> <p>5 to you?</p> <p>6 A. That's correct.</p> <p>7 MR. HILLEGAS: Objection; form.</p> <p>8 Q. Do you have an understanding what ad tech</p> <p>9 ad tech is right, sir?</p> <p>10 MR. HILLEGAS: Objection; form.</p> <p>11 A. Yes.</p> <p>12 Q. So putting aside the word ad tech, given</p> <p>13 what you know based on the other work you have done</p> <p>14 in this case, did you see any message in here that</p> <p>15 looks like it might even possibly relate to the</p> <p>16 display ad's business or to tech?</p> <p>17 MR. HILLEGAS: Objection; form.</p> <p>18 A. As I understand, Meta is one of the bigger</p> <p>19 competitors in the ad tech space.</p> <p>20 Q. Are you looking -- sorry.</p> <p>21 A. That's on 392.</p> <p>22 Q. Are you pointing to the reference about</p> <p>23 Meta having layoffs?</p> <p>24 A. That's correct.</p> <p>25 Q. Okay.</p>	<p style="text-align: right;">Page 240</p> <p>1 forget Amazon.</p> <p>2 Q. Switching gears for a second.</p> <p>3 Professor Hochstetler, do you know one way</p> <p>4 or the other whether Google produced in this lawsuit</p> <p>5 all the Chat messages it actually had preserved for</p> <p>6 these 141 employees for any time period?</p> <p>7 A. I have no data one way or the other on</p> <p>8 that.</p> <p>9 Q. Do you understand that when in lawsuits,</p> <p>10 companies will collect a bunch of information that</p> <p>11 was preserved and then produce to the other side a</p> <p>12 subset of that?</p> <p>13 A. Yes, I'm aware of -- I'm lightly as not a</p> <p>14 lawyer aware of the process.</p> <p>15 Q. Do you know how many Chat messages Google</p> <p>16 collected in connection with this lawsuit?</p> <p>17 A. I do not.</p> <p>18 Q. Do you -- well, for your Log Dataset, did</p> <p>19 you have the ability to determine how many messages</p> <p>20 were sent or received during the log period, even if</p> <p>21 you can't tell the content of those with history</p> <p>22 off?</p> <p>23 A. Yes, for those five individuals.</p> <p>24 Q. Okay. And did you read in</p> <p>25 Mr. Malkiewicz's report that he looked at the log to</p>
<p style="text-align: right;">Page 239</p> <p>1 A. And then later -- I don't know their full</p> <p>2 name. They say, Worth reading the ranges. Quite</p> <p>3 aggressive, we will have 8 percent max in the bottom</p> <p>4 two categories. Meta's are between 14.5 and</p> <p>5 16.5 percent.</p> <p>6 Q. Based on what you know, do either of those</p> <p>7 references have to do with digital advertising?</p> <p>8 A. I'm not certain what they're referencing</p> <p>9 with those percentages.</p> <p>10 Q. Got it.</p> <p>11 And when you said Meta is a competitor in</p> <p>12 Display Ads, what do you mean?</p> <p>13 A. From my first report, as I recall, Meta is</p> <p>14 a competitor in the space of Facebook, formerly</p> <p>15 known as Facebook with Display Ads.</p> <p>16 Q. A major competitor, right?</p> <p>17 A. Yes, and they're part of a, quote, FAANG</p> <p>18 gang.</p> <p>19 Q. What's the FAANG gang?</p> <p>20 A. It is Facebook, Apple -- I can't remember</p> <p>21 what the second A stands for, Netflix, Google. And</p> <p>22 that's where aspiring CS grads go to work.</p> <p>23 Q. Got it.</p> <p>24 MR. HILLEGAS: Amazon.</p> <p>25 THE WITNESS: Amazon. How could I</p>	<p style="text-align: right;">Page 241</p> <p>1 determine that 12 "history on" messages were sent by</p> <p>2 the CEO in that December 2022 group that we were</p> <p>3 just looking at in Exhibit 11 but don't appear in</p> <p>4 the production?</p> <p>5 A. As I recall, yes.</p> <p>6 Q. Do you have -- are you disputing that</p> <p>7 conclusion by Mr. Malkiewicz?</p> <p>8 A. No.</p> <p>9 Q. So if a "history on" message was retained</p> <p>10 but not produced, do you have any reason to disagree</p> <p>11 with that, meaning that the message was preserved by</p> <p>12 Google, just not produced in the lawsuit because it</p> <p>13 wasn't pertinent?</p> <p>14 MR. HILLEGAS: Objection; form.</p> <p>15 A. No, I am not a lawyer.</p> <p>16 Q. By the way, you have referenced a Happy</p> <p>17 Birthday Philipp Chat message.</p> <p>18 The reason you reference that in your</p> <p>19 report is because it was a message that was in the</p> <p>20 same group, is that right, as Exhibit 11.</p> <p>21 If you're looking for where to go, page 39</p> <p>22 of your report, Figure 13.</p> <p>23 A. Yes. One of the first things I did after</p> <p>24 I assembled all the data from the creates and the</p> <p>25 receives was to figure out where do these space IDs</p>



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<p>Page 242</p> <p>1 belong. I first want to check were there any unique 2 space IDs between the five custodians because that 3 would reinforce the messages sent/receive. I could 4 track in the dataset, hey, this person sent, I 5 should see receives on the side. 6 At this point in the data analysis I was 7 still unsure why there was so many chime ringers 8 being sent and I wasn't seeing a one-to-one 9 correlation with them. So at this point I started 10 searching directly for the space IDs in the 11 production. 12 And as I recall, one of the first hits I 13 got was on this Happy Birthday Philipp message, 14 which I was able to correlate directly with time. 15 So I was able to figure out the exact timing. As I 16 mentioned before, one of the original problems was 17 the time zone. And the original dataset was not 18 great on time zones, so we want to nail down -- 19 [REDACTED] was saying February 8 and I wanted to make 20 sure we were on the exact date with that. 21 So having these messages that were 22 produced, having an actual time zone on the end let 23 me do that. And that was a relief for me because it 24 was -- the timing was either going to GMT or 25 California time.</p> <p>Page 243</p> <p>1 MS. NAJAM: Appreciate it. I'm going 2 to object as nonresponsive. No disrespect intended. 3 I'm going to re-ask my question. 4 Q. Earlier today you gave some testimony 5 about a Happy Birthday Philipp message. In 6 Figure 13, first question, is that the message you 7 were testifying about earlier? 8 A. Yes. 9 Q. Okay. Second question: Was this message 10 in the same group as Exhibit 11; in other words, the 11 same participants are on it? 12 A. This is the -- 13 MR. HILLEGAS: Objection; form. 14 Q. -- AAAA, AAA group? 15 A. Yes. 16 Q. Okay. Does wishing someone happy -- is 17 wishing someone happy birthday an email pertinent to 18 any lawsuit? 19 A. I don't believe so. 20 Q. And you -- 21 A. But the word "any" in there scares me. 22 Q. Sure. Is wishing Philipp happy birthday 23 pertinent to this lawsuit? 24 A. I would hope not. 25 Q. But I think as you testified earlier, you</p>	<p>Page 244</p> <p>1 understand that it was produced here because it has 2 the term "history on" in that second message? 3 A. That's correct. 4 Q. Dr. Hochstetler, did do you any analysis 5 of the dataset compared to produced Chat 6 conversations to determine whether production rates, 7 that is, the messages that were preserved and 8 produced as a percentage of total messages sent and 9 received during the log period, whether those rates 10 increased for the five custodians once history was 11 forced on? 12 MR. HILLEGAS: Objection; form. 13 A. No, that wasn't part of my assignment. 14 Q. Did you have the information to do that 15 though? 16 A. So are we -- to clarify, we're saying 17 prior to the log period -- prior to the February 8th 18 date and the log period, were aggregating counts and 19 then doing a comparison after February 8th? 20 Q. Yes. In terms of account of messages 21 preserved and produced as a percent of total 22 messages sent/received. 23 A. No. 24 Q. But my question was, did you have the 25 information to do that?</p> <p>Page 245</p> <p>1 MR. HILLEGAS: Objection; form. 2 A. Not in an easy format. It would -- it 3 would take a lot of crunching. As you can see 4 from -- well, the exhibit, Figure 11, this 5 conversation includes a lot of messages. So the 6 production isn't a single Chat message. It's an 7 entire conversation. So I would have to -- there 8 would be a lot of steps involved in this to parse it 9 out. 10 Q. Is the punch line that you -- technically 11 you had the information available but it would 12 require a ton of work to do that kind of analysis? 13 MR. HILLEGAS: Objection; form. 14 A. I hate to say work because the computer 15 does the work. It would take time. 16 Q. Now, Mr. Malkiewicz, do you recall that in 17 his report he, focusing on the CEO, noted that from 18 the moment that Chat was forced on -- sorry, history 19 was forced on until the end of the production period 20 in this case, that's March 23rd of '23, that Google 21 produced zero Chat messages from Mr. Pichai. Do you 22 recall that in his report? 23 A. I believe so. 24 Q. Are you disputing that? 25 A. No.</p>
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<p style="text-align: right;">Page 246</p> <p>1 Q. And did you see that Mr. Malkiewicz did 2 similar analysis for other custodians finding what 3 he called responsiveness rates of their chats after 4 history was forced on ranging from 4 to 15 percent? 5 A. I recall that. What paragraph? 6 Q. I actually don't have it handy. I'm not 7 going to ask you about any numbers. 8 My question is: Do you dispute the stats 9 that he has come up with for these other custodians 10 in terms of the responsiveness rates of their chats 11 after history was forced on? 12 A. No. 13 MS. NAJAM: Okay. I don't know if you 14 guys want to take a break. I have about 30 minutes 15 left, maybe less. 16 MR. HILLEGAS: We have been on the 17 record for --- closing in on an hour actually. 18 MS. NAJAM: We're at 50 minutes, less 19 than 50 minutes on so far. I can power through or we 20 can take a break. 21 MR. HILLEGAS: I've got you at 54 22 but -- 23 MS. NAJAM: Oh, yeah. 24 MR. HILLEGAS: -- it seems like a 25 good -- if it's convenient stopping point rather than</p>	<p style="text-align: right;">Page 248</p> <p>1 email in a particular string was produced several 2 times versus just the one if it was a comprehensive 3 string? 4 A. For emails, no. 5 Q. Well, aren't you aware that every time 6 somebody replied to an email, that new string was 7 produced anew, a-n-e-w, and then the count of emails 8 produced by Google in this case would not be the 9 count of individual unique email messages? 10 MR. HILLEGAS: Objection; form. 11 A. Wouldn't that reply be a new email? 12 Q. So didn't you do some work in this case to 13 determine the unique email messages sent in this 14 case that were produced? 15 A. Yes. 16 Q. So in terms of the raw number of emails 17 produced, 4.2 million, those aren't going to be 18 unique emails, right? 19 MR. HILLEGAS: Objection; form. 20 A. There were some that were flagged as exact 21 duplicates and some were flagged as near duplicates 22 which would include those. 23 Q. Okay. So let me ask you this question: 24 If I email you and, again, Mr. Hillegas and one of 25 you replies "all," and then the other one also</p>
<p style="text-align: right;">Page 247</p> <p>1 going the extra half hour, I think it makes sense. 2 THE VIDEOGRAPHER: Off the record at 3 5:02. 4 (Recess 5:02 p.m. to 5:13 p.m.) 5 THE VIDEOGRAPHER: We're on the 6 record. The time is 5:13. 7 Q. Now I would like to ask you about 8 something in your declaration. It is Exhibit 3. 9 It's going to span from pages 6 to 7, paragraphs 22 10 and 23. 11 Now in these two paragraphs of your 12 declaration you are providing numbers of emails 13 produced in this lawsuit versus Chat conversations 14 produced, correct? 15 A. Correct. 16 Q. Sir, were you provided any documentation 17 of the number of Chat conversations or individual 18 Chat messages that were preserved but not produced 19 in this lawsuit? 20 MR. HILLEGAS: Objection; form. 21 A. No. 22 Q. For example, did you see a copy of a 23 declaration from somebody at KPMG on this topic? 24 A. Not that I recall. 25 Q. In this lawsuit, do you know whether every</p>	<p style="text-align: right;">Page 249</p> <p>1 replies "all" on top of that -- on top of that. 2 Do you know whether in this lawsuit that 3 counts as one email or three emails when you're 4 opining on this 4.2 million number? 5 A. So in this hypothetical you email and then 6 someone emails back and then I also email back three 7 times? 8 Q. Yes. 9 A. That would be three emails. 10 Q. Okay. So just to be clear, 4.2 million 11 that is higher than the number of unique email 12 messages produced in this lawsuit, true? 13 A. Yes. There were duplicates. As I 14 understand, there were different ways that retention 15 happened. It necessarily wasn't one exact system so 16 there are duplicates of emails that were produced. 17 Q. Okay. Let's pull out your reply report 18 from December, Exhibit 2. Go to page 23, paragraph 19 60. 20 Let's actually look at Footnote 93. You 21 say that out of the roughly 4.2 million emails 22 produced, some of them lacked date and time 23 metadata; is that right? 24 A. That's correct. 25 Q. And then you counted around 7,500 that</p>

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<p style="text-align: right;">Page 250</p> <p>1 were flagged as exact duplicates and then another 2 roughly 1.8 million that were flagged as near 3 duplicates. 4 Did I read that -- did I recap that right? 5 A. That's correct. 6 Q. So is it your estimation that less than 7 1.8 million unique email messages were produced in 8 this lawsuit? 9 MR. HILLEGAS: Objection; form. 10 A. So 1.8 -- or the 1.761275 rounded up to 11 1.8 were flagged as duplicates and I removed them 12 from the 4.2 million. 13 Q. So if you start at -- let me make sure 14 we're -- you started at 4.2 million and then you 15 removed the ones lacking date and time metadata, 16 right? 17 A. Let me correct myself. 18 Q. Yes. 19 A. I did not deduplicate these at this point. 20 So my last sentence here, I have not performed any 21 deduplication of the email documents. 22 Q. Who flagged 7,500-ish as exact duplicates 23 and 1 point million-ish as near duplicates? 24 A. The system flagged them, as I recall, in 25 Reveal.</p>	<p style="text-align: right;">Page 252</p> <p>1 include several individual Chat messages, right? 2 A. Correct. 3 Q. And in this case, are you aware that each 4 individual Chat message is not going to be produced 5 separately? 6 A. As I understand production is of the 7 conversation. 8 Q. Which can include several messages? 9 A. Which can include several messages. 10 Q. Did you count up the individual Chat 11 messages that Google produced in this suit? 12 A. No. 13 Q. Can we agree that it would have been an 14 apples-to-apples comparison to count the number of 15 unique emails produced versus the number of unique 16 Chat messages produced? 17 MR. HILLEGAS: Objection; form. 18 A. Yes. 19 Q. And did you try to do that comparison? 20 A. I considered it but did not have the time. 21 Q. Okay. In your declaration that was 22 submitted to the Court, which we looked at a couple 23 moments ago on paragraph 23 -- I'm sorry, it's 24 paragraph 22 and paragraph 23. 25 Can we agree that it is not an</p>
<p style="text-align: right;">Page 251</p> <p>1 Q. Okay. But just taking -- just doing the 2 math, out of the 3.8 million that actually had date 3 and time metadata, if you remove the ones the system 4 flagged as exact or near duplicates, don't you end 5 up with roughly 1.8 million? 6 MR. HILLEGAS: Objection; form. 7 A. I don't recall from the 1.8 million that 8 were flagged as near duplicates, I don't think it 9 gave me any confidence on what they were as far as 10 duplicates. 11 But if we take 3.8 million and subtract 12 1.8 million, which let's say -- let's say each of 13 them is a duplicate. That gives us 900,000 and that 14 would be 2.7 million, if my math is right. 15 Q. Let me ask a better question. 16 Do you have an expert opinion in this case 17 on the -- sorry. 18 Do you have an opinion in this case on the 19 number of unique email messages that Google produced 20 in this lawsuit? 21 A. No. 22 Q. Okay. Now let's talk about Chat 23 conversations. 24 Any Chat conversation when produced will 25 include several individual Chat messages -- or can</p>	<p style="text-align: right;">Page 253</p> <p>1 apples-to-apples comparison to compare the 2 4.2 million emails produced versus the approximate 3 14 to 15,000 Chat conversations produced? 4 MR. HILLEGAS: Objection; form. 5 A. Correct. Also, with chats there was a lot 6 of missing metadata. A good percentage of it was 7 missing the date/time group metadata. And then 8 there was also the same issue with emails where 9 there was the duplicate of ones or exact matches. 10 Q. Okay. Now you noted in your declaration 11 in paragraph 23 that you didn't identify a single 12 Chat produced prior to 2010. 13 Do you see that? 14 A. Yes. 15 Q. Is it possible that some portion of the 16 over 4,000 conversations that were lacking the 17 date/time metadata that they were prior to 2010? 18 MR. HILLEGAS: Objection to form. 19 A. It is possible. 20 Q. And then I had a question about page 8 of 21 your declaration, paragraph 24, and then there's 22 some figures associated with this. 23 You observe that the year that the most 24 produced Google emails were created/sent is 25 different from the year that the most produced</p>

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<p style="text-align: right;">Page 254</p> <p>1 Google chats were sent/received.  2 A. Chat conversations.  3 Q. Okay. This says chats but you meant  4 conversations?  5 A. Yeah, based upon the figure above it.  6 Q. Okay. Perhaps I'm being obtuse or it's  7 just late in the day.  8 Can you explain to me what the point of  9 that analysis is?  10 A. This was to show a comparison between the  11 two productions.  12 Q. But can you explain to us why it matters  13 that the peak years for chats versus emails differs?  14 Are you drawing any additional conclusions from  15 that?  16 A. I am comparing them together. I am not  17 drawing any separate conclusions.  18 Q. Okay. Finally did you -- I say finally,  19 almost finally.  20 Did you review any Chat preservation  21 practices or policies for any of the plaintiff  22 states or territory?  23 A. I did not.  24 Q. Was that not part of your scope of work in  25 this case?</p>	<p style="text-align: right;">Page 256</p> <p>1 A. I do.  2 Q. Is it your understanding that a P value  3 measures relevance?  4 A. No.  5 Q. You were also asked about your history in  6 statistics.  7 Do you recall that, sir?  8 A. That's correct.  9 Q. You talked about a paper that you  10 published about where to place police forces.  11 Do you recall that, sir?  12 A. Yes.  13 Q. You presented that paper at a conference,  14 right, sir?  15 A. That's correct.  16 Q. And it contains your statistical analysis  17 about where best to place police in Los Angeles; is  18 that correct?  19 MS. NAJAM: Objection; leading.  20 A. Specifically LA County, not just Los  21 Angeles.  22 MR. HILLEGAS: I'm passing the witness  23 a document that we can give the next exhibit number.  24 (Exhibit 12 marked.)  25 Q. Is Exhibit 12 a copy of the paper that you</p>
<p style="text-align: right;">Page 255</p> <p>1 A. It was not part of my assignment.  2 Q. How about Google's disclosures of their  3 Chat preservation policy to the plaintiffs during  4 this lawsuit, was that something you considered?  5 A. No, it was not part of my assignment.  6 MS. NAJAM: All right. On behalf of  7 Google, we would like to designate the deposition  8 highly confidential. And that means that I have no  9 further questions for you at this time, but I may  10 have follow-up depending on if plaintiffs' counsel  11 has some questions.  12 MR. HILLEGAS: Let's take a break and  13 then I will prepare my rebuttal and then we'll be  14 able to come back on the record.  15 THE VIDEOGRAPHER: Off the record,  16 5:26.  17 (Recess 5:26 p.m. to 6:02 p.m.)  18 THE VIDEOGRAPHER: We're on the  19 record. The time is 6:02.  20 EXAMINATION  21 BY MR. HILLEGAS:  22 Q. Dr. Hochstetler, welcome back.  23 As part of the questioning earlier today,  24 you were asked about "P values."  25 Do you recall that, sir?</p>	<p style="text-align: right;">Page 257</p> <p>1 presented?  2 A. Yes.  3 MR. HILLEGAS: Counsel, I'm noticing  4 you're putting your hand next to your ear. Do you  5 want me to speak louder?  6 MS. NAJAM: Yes, if you don't mind.  7 Also I can read it here. Don't worry about it.  8 MR. HILLEGAS: First time someone has  9 ever said that to me but I will try.  10 Q. In your analysis for this case you used  11 all the metadata available to you, correct?  12 A. That's correct.  13 Q. You used all the metadata that was  14 available in the 68-day dataset, correct?  15 MS. NAJAM: Objection; leading.  16 A. Yes.  17 Q. Did you exclude any data from the dataset?  18 A. I used the dataset in its entirety.  19 Q. Is it your understanding that metadata  20 from outside the dataset was preserved?  21 A. Not to my knowledge.  22 Q. To the best of your knowledge, Google  23 didn't preserve any metadata from prior to the  24 December 9th start of the dataset, correct?  25 MS. NAJAM: Objection; leading.</p>

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<p style="text-align: right;">Page 258</p> <p>1 A. No.</p> <p>2 Q. Google didn't preserve any metadata from</p> <p>3 prior to December 9th of 2022, right?</p> <p>4 MS. NAJAM: Objection; leading.</p> <p>5 A. Not that I'm aware of.</p> <p>6 Q. Google didn't preserve any data from --</p> <p>7 strike that.</p> <p>8 Google didn't preserve any metadata from</p> <p>9 2021, correct?</p> <p>10 MS. NAJAM: Objection; leading.</p> <p>11 A. Not that I'm aware of.</p> <p>12 Q. Google didn't preserve any data from --</p> <p>13 strike that.</p> <p>14 Google didn't preserve any metadata from</p> <p>15 2020, correct?</p> <p>16 MS. NAJAM: Objection; leading.</p> <p>17 A. Not that I'm aware of.</p> <p>18 Q. And if I were to ask you for each year</p> <p>19 going back to the beginning of Google's obligation</p> <p>20 to start holding data relative to this litigation,</p> <p>21 you would have the same answer, correct?</p> <p>22 MS. NAJAM: Objection; form.</p> <p>23 Objection; leading.</p> <p>24 A. That is correct.</p> <p>25 Q. You're not opining on when Google's</p>	<p style="text-align: right;">Page 260</p> <p>1 MS. NAJAM: Objection; leading.</p> <p>2 A. That I'm aware of.</p> <p>3 Q. Were the Chat logs that were produced for</p> <p>4 those five custodians limited to the Epic Play log</p> <p>5 case?</p> <p>6 A. No.</p> <p>7 Q. Were the Chat logs that were produced for</p> <p>8 the five custodians limited to chats for this case?</p> <p>9 A. No.</p> <p>10 Q. Did the metadata Chat log for those five</p> <p>11 custodians reflect all of the Chat usage of those</p> <p>12 five custodians over the 68-day log period?</p> <p>13 A. That I'm aware of.</p> <p>14 Q. Now, earlier today you had a discussion</p> <p>15 over whether the Chat log covered people with -- who</p> <p>16 were in day-to-day jobs in Display Ads.</p> <p>17 Do you recall that?</p> <p>18 A. Yes.</p> <p>19 Q. Did Google produce any metadata for</p> <p>20 employees with day-to-day jobs in Display Ads?</p> <p>21 MS. NAJAM: Objection to form.</p> <p>22 A. Not that I'm aware of.</p> <p>23 Q. Earlier on in the day there was a</p> <p>24 discussion over whether you reviewed Mr. Pichai's</p> <p>25 deposition.</p>
<p style="text-align: right;">Page 259</p> <p>1 obligation to preserve data started, right?</p> <p>2 A. I am not.</p> <p>3 Q. In your analysis of the metadata, it</p> <p>4 covered five custodians, correct?</p> <p>5 MS. NAJAM: Objection; leading.</p> <p>6 A. Yes.</p> <p>7 Q. And those five custodians were custodians</p> <p>8 in the Epic Play log case, correct?</p> <p>9 A. As I understand.</p> <p>10 Q. Those five custodians were subject to a</p> <p>11 litigation hold on the Epic Play log case, correct?</p> <p>12 MS. NAJAM: Objection; form.</p> <p>13 Objection; leading.</p> <p>14 A. Yes.</p> <p>15 Q. Those five custodians were also custodians</p> <p>16 in this case, correct?</p> <p>17 MS. NAJAM: Objection; leading.</p> <p>18 A. Yes.</p> <p>19 Q. Those five custodians were subject to a</p> <p>20 litigation hold in this case, correct?</p> <p>21 MS. NAJAM: Objection; form, leading.</p> <p>22 A. That's correct.</p> <p>23 Q. So the five custodians in the metadata</p> <p>24 data log that you reviewed were subject to at least</p> <p>25 two litigation holds, correct?</p>	<p style="text-align: right;">Page 261</p> <p>1 Do you recall that?</p> <p>2 A. Yes.</p> <p>3 Q. And you had mentioned to counsel that you</p> <p>4 did not review the deposition, right?</p> <p>5 A. Correct.</p> <p>6 Q. That's not correct, right?</p> <p>7 MS. NAJAM: Objection; leading.</p> <p>8 A. That is not correct.</p> <p>9 Q. You actually cite Mr. Pichai's deposition</p> <p>10 on page 6, Footnote 10 of your declaration, right?</p> <p>11 A. I do.</p> <p>12 MS. NAJAM: Objection; leading.</p> <p>13 Q. Now, opposing counsel had a list of</p> <p>14 questions for you about the Chat volume of the</p> <p>15 custodians who were not on the Chat log.</p> <p>16 Do you recall that?</p> <p>17 A. Yes.</p> <p>18 Q. And you testified that you couldn't speak</p> <p>19 to the Chat volume of those 136 custodians, correct?</p> <p>20 A. The 141 minus 5, yes.</p> <p>21 Q. Why can't you speak to the Chat volume of</p> <p>22 those 136 custodians?</p> <p>23 A. There's no data for it.</p> <p>24 Q. There's no data for it because that data</p> <p>25 wasn't preserved by Google, right?</p>

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<p style="text-align: right;">Page 262</p> <p>1 MS. NAJAM: Objection; leading.  2 A. That metadata was destroyed.  3 Q. The average that you took of the metadata  4 that was produced is the best possible estimate of  5 Chat use given what was produced in this case,  6 right?  7 MS. NAJAM: Objection; leading.  8 A. Yes.  9 Q. You're not opining on the duration  10 necessary to preserve chats, right?  11 MS. NAJAM: Objection; leading.  12 A. I am not.  13 Q. Did Google produce any metadata more  14 representative than the dataset you reviewed?  15 MS. NAJAM: Objection; form.  16 A. Not that I'm aware of.  17 Q. And that's because Google didn't produce  18 any other data other than the metadata that you  19 produced -- that you reviewed, correct?  20 MS. NAJAM: Objection; leading.  21 A. That's correct.  22 Q. There was a series of questions on  23 litigation holds.  24 Do you recall that?  25 A. Yes.</p>	<p style="text-align: right;">Page 264</p> <p>1 Q. Do you have any idea what's underneath the  2 black box?  3 A. No.  4 Q. Do you know whether Google employees  5 followed the instructions under the black box?  6 A. I do not.  7 Q. The next passage that Google -- that  8 opposing counsel had you read discusses asking  9 employees not to -- please do not use the following  10 tools or messaging apps to discuss any topics  11 covered by this legal hold, colon, any third-party  12 tools or messaging apps; or any Google messaging  13 apps (such as Chat, Hangouts, Duo) or Dogfood apps  14 (if you must do so, please make sure the settings  15 preserve the messages, such as switching to "history  16 on" for chats and Hangouts).  17 Do you recall that?  18 A. Yes.  19 Q. Did Google employees continue to use chats  20 despite that warning?  21 MS. NAJAM: Objection; form.  22 A. Yes.  23 Q. In your review of the metadata and chats  24 in this case, you didn't determine whether any  25 produced Chat is pertinent to this case, right?</p>
<p style="text-align: right;">Page 263</p> <p>1 Q. I would like you to bring back up  2 Exhibit --  3 A. -- eight.  4 Q. I appreciate you having the number because  5 I don't.  6 A. Only one copy has a number.  7 Q. Thank you.  8 And in Exhibit 8, most of it's redacted,  9 right?  10 MS. NAJAM: Objection; leading.  11 A. (Reviewed document.) I would say the  12 majority is redacted.  13 Q. In the questioning, opposing counsel had  14 you read portions of it, correct?  15 MS. NAJAM: Objection; leading.  16 A. Yes.  17 Q. One of the portions that opposing counsel  18 had you read was in that first open section, This  19 means you must keep and not delete all relevant  20 information as explained below; is that correct?  21 A. That's correct.  22 Q. Immediately following that is a large  23 black box that extends from page Bates number ending  24 in 50 to 51; is that correct?  25 A. Correct.</p>	<p style="text-align: right;">Page 265</p> <p>1 A. No.  2 Q. At various points today opposing asked --  3 counsel asked you about whether certain unproduced  4 chats were relevant, right?  5 A. Yes.  6 Q. And you were unable to testify as to the  7 content of unproduced chats, right?  8 A. Correct.  9 Q. Why couldn't you testify as to the content  10 of the unproduced Chat messages?  11 A. That data doesn't exist.  12 Q. That data has been destroyed, right?  13 MS. NAJAM: Objection; form.  14 A. That's correct.  15 Q. It existed at one point and it no longer  16 exists now; is that fair?  17 MS. NAJAM: Objection; form.  18 Objection; leading.  19 A. That's fair to say.  20 Q. Opposing counsel asked you about two  21 documents from 2013 and 2015 respectively about  22 enterprise software.  23 Do you recall that?  24 A. Exhibits 9 and 10, yes.  25 Q. Is it fair to say that in order for Google</p>

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<p style="text-align: right;">Page 266</p> <p>1 to preserve chats for individual employees, it must</p> <p>2 have been able to do two things: First, it needs to</p> <p>3 be able to make a distinction on</p> <p>4 employee-by-employee basis. And second, it needs to</p> <p>5 prevent employees from turning Chat history "off."</p> <p>6 MS. NAJAM: Objection; form.</p> <p>7 Objection; leading.</p> <p>8 A. Yes.</p> <p>9 Q. One of these exhibits is from 2013, right?</p> <p>10 A. Yes, Exhibit 10.</p> <p>11 Q. In the 2013 exhibit, Google discusses how</p> <p>12 it has the ability to make changes on a per-employee</p> <p>13 by per-employee basis, right?</p> <p>14 MS. NAJAM: Objection; form and</p> <p>15 leading.</p> <p>16 A. The exact verbiage is, ability to</p> <p>17 customize which Hangouts features are available to</p> <p>18 which employees.</p> <p>19 Q. And that's making changes on a</p> <p>20 per-employee basis, right?</p> <p>21 MS. NAJAM: Objection; form and</p> <p>22 leading.</p> <p>23 A. Yes.</p> <p>24 Q. In 2015 Google had the ability to prevent</p> <p>25 users from changing the default settings, right?</p>	<p style="text-align: right;">Page 268</p> <p>1 turning off Chat history; is that correct?</p> <p>2 MS. NAJAM: Objection; form and</p> <p>3 leading.</p> <p>4 A. Yes.</p> <p>5 Q. Opposing counsel referred to [REDACTED]</p> <p>6 deposition several times, right?</p> <p>7 A. Yes.</p> <p>8 Q. I believe she cited to his comments in</p> <p>9 Mr. Malkiewicz's report stating that Google had put</p> <p>10 in several hundred hours across a team to develop</p> <p>11 and roll out the technology to preserve chats for</p> <p>12 specific employees; is that correct?</p> <p>13 MS. NAJAM: Objection to form and</p> <p>14 leading.</p> <p>15 A. That's correct.</p> <p>16 Q. Is a couple hundred hours a long time for</p> <p>17 a company the size of Google to develop and roll out</p> <p>18 software?</p> <p>19 MS. NAJAM: Objection to form.</p> <p>20 A. Not for a company the size of Google.</p> <p>21 Q. How much real time is a couple hundred</p> <p>22 hours for a team to develop this sort of software</p> <p>23 for a company the size of Google?</p> <p>24 MS. NAJAM: Objection; form.</p> <p>25 A. I would estimate one sprint.</p>
<p style="text-align: right;">Page 267</p> <p>1 MS. NAJAM: Objection; form and</p> <p>2 leading.</p> <p>3 A. That is correct.</p> <p>4 Q. And, in fact, if you go to page 3 --</p> <p>5 MS. NAJAM: Which exhibit are you on?</p> <p>6 THE WITNESS: Exhibit 9.</p> <p>7 MR. HILLEGAS: The 2015 one,</p> <p>8 Exhibit 9.</p> <p>9 THE WITNESS: Exhibit 9.</p> <p>10 Q. Can you read the second and third</p> <p>11 sentences at the top of the page, please.</p> <p>12 A. With this new feature, admins can ensure</p> <p>13 Chat participants cannot change this setting for new</p> <p>14 conversations. This also means that participants</p> <p>15 with Hangouts Chat history forced on will not be</p> <p>16 able to communicate with participants with Chat</p> <p>17 history forced off.</p> <p>18 Q. Does that mean that in 2015 Google had the</p> <p>19 ability to prevent users from turning off Chat</p> <p>20 history?</p> <p>21 MS. NAJAM: Objection; form and</p> <p>22 leading.</p> <p>23 A. Yes.</p> <p>24 Q. So as of 2015, Google had both elements</p> <p>25 necessary to prevent individual employees from</p>	<p style="text-align: right;">Page 269</p> <p>1 Q. How long is a sprint?</p> <p>2 A. Normally it would be two weeks.</p> <p>3 Q. Opposing counsel also asked you about</p> <p>4 apples-to-apples comparisons with -- between emails</p> <p>5 and chats.</p> <p>6 Do you recall that?</p> <p>7 A. Yes.</p> <p>8 Q. And part of that was that each new email</p> <p>9 on a chain may be a new document, right?</p> <p>10 A. Yes.</p> <p>11 Q. It isn't necessarily true that all of the</p> <p>12 produced documents started with a single email and</p> <p>13 built from there, right?</p> <p>14 MS. NAJAM: Objection; form and</p> <p>15 leading.</p> <p>16 A. That's true.</p> <p>17 Q. Some of the produced emails may have just</p> <p>18 been the entire chain in one fell swoop, correct?</p> <p>19 MS. NAJAM: Objection; form and</p> <p>20 leading.</p> <p>21 A. That's correct.</p> <p>22 Q. Taking opposing counsel's apples-to-apples</p> <p>23 comparison as true, are you still able to use the</p> <p>24 number of emails as a check for your chats analysis?</p> <p>25 A. Yes.</p>

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<p style="text-align: right;">Page 270</p> <p>1 Q. Do you believe that your comparison of 2 chats and emails supports your conclusions? 3 A. Yes. 4 Q. Opposing counsel asked you about the 5 spreadsheet that you produced in this case. Do you 6 recall that? I'm referring to the one mentioned in 7 202 employees. I don't know which exhibit it is. I 8 can hand you my copy if you'd like. 9 A. I was looking for the exhibit number. 10 Yes. 11 Q. You produced that spreadsheet as part of 12 your reply report, correct? 13 A. That's correct. 14 Q. And if you were to receive new information 15 for the number of people that were subject to a 16 litigation hold, could you update your numbers on 17 the spreadsheet? 18 A. Yes. 19 Q. Do you intend to testify about all the 20 opinions that are in your reports, including your 21 supplemental report, your declaration, and your 22 prior report? 23 A. I do. 24 Q. Are you qualified to give all the opinions 25 that are in your reports?</p>	<p style="text-align: right;">Page 272</p> <p>1 versions provided to customers, true? 2 A. Correct. I don't -- I don't know if they 3 eat their own dog food. 4 Q. Did you say, I don't know if they eat 5 their own dog food? 6 A. That's correct. 7 Q. What does that mean? 8 A. That's an industry phrase for when you 9 produce a product, you use it internally to iron out 10 the issues with it and then you release it as a 11 product. 12 Q. Do you know in 2015, for example, whether 13 your interpretation of Exhibit 9 that you could on A 14 user-by-user basis have a sticky Retention Setting 15 if that was indeed available in whatever software 16 Google was using internally? 17 MR. HILLEGAS: Objection; form. 18 A. This is what I took locally applied to 19 mean. 20 Q. You're looking at Exhibit 9 in that box, 21 correct? 22 A. That's correct. 23 Q. I want to look at the language that you 24 and plaintiffs' counsel looked at on page 3, with 25 this new feature admins can ensure.</p>
<p style="text-align: right;">Page 271</p> <p>1 MS. NAJAM: Objection; form. 2 A. I am. 3 Q. Has anything mentioned today changed your 4 opinions that are contained within your supplemental 5 report, declaration or reply report? 6 A. No. 7 MR. HILLEGAS: Pass the witness. 8 FURTHER EXAMINATION 9 BY MS. NAJAM: 10 Q. Let's go in reverse order. 11 On the topic of Exhibit 9, and that is the 12 blog post from 2015, I wanted to clarify a few 13 things first. 14 You testified earlier that you didn't know 15 whether the version of Google Chat that it provides 16 to customers was the same as the one Google was 17 using internally. 18 Is that still the case? 19 MR. HILLEGAS: Objection; form. 20 A. I don't believe I saw any testimony in the 21 depositions regarding that. 22 Q. So you don't know. In other words, I'm 23 going to use your phrase from earlier. You don't 24 have any visibility into the version of the software 25 that Google uses internally to compare it to the</p>	<p style="text-align: right;">Page 273</p> <p>1 Is there any wording in this blog post 2 that says that admin can select on a user-by-user 3 basis whether a Retention Setting cannot be altered? 4 A. Yes. 5 Q. Where is that language? 6 A. The third sentence. 7 Q. Of what page? 8 A. Of that -- the page we're on, page 3. 9 This also means that participants with Hangouts Chat 10 history forced on will not be able to communicate 11 with participant with Chat history forced off. 12 If there is someone forced off and there 13 is someone forced on, that means it's not a global 14 application. It's selectively applying it. 15 Q. What you're talking about is selectively 16 applying whether history is on versus off, correct? 17 A. Forced on, yes. 18 Q. I'm asking a different question. 19 Does it say anything in here about forcing 20 history on for all participants and then selecting 21 which ones can't change it? 22 MR. HILLEGAS: Objection; form. 23 A. It's in the same dialogue box from the 24 screenshot in the blog post. 25 Q. Is it what you and I covered earlier?</p>

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<p style="text-align: right;">Page 274</p> <p>1 A. Yes.</p> <p>2 Q. You're taking the local reference to mean</p> <p>3 this is a user-by-user determination?</p> <p>4 A. That's correct.</p> <p>5 Q. Besides Exhibit 9, am I right that you</p> <p>6 don't have any other indication that back in 2015</p> <p>7 Google had the capability to do what it ultimately</p> <p>8 did in February of 2023?</p> <p>9 MR. HILLEGAS: Objection; form.</p> <p>10 A. Beyond the document I found, I did not do</p> <p>11 any searching.</p> <p>12 Q. And you testified just now when counsel</p> <p>13 was asking you to agree with him on certain</p> <p>14 statements. You said in your view in terms of the</p> <p>15 work, the hours that [REDACTED] testified it took to</p> <p>16 make the change, that's a sprint. That's two weeks</p> <p>17 in your opinion?</p> <p>18 A. Yes.</p> <p>19 Q. Is the word "sprint" contained in any of</p> <p>20 your reports or declarations in this case?</p> <p>21 A. No.</p> <p>22 Q. It's your opinion that that's a two-week</p> <p>23 effort. Is that contained in either of your reports</p> <p>24 or your declaration in this case?</p> <p>25 A. No. Different companies have different</p>	<p style="text-align: right;">Page 276</p> <p>1 have no further questions.</p> <p>2 MR. HILLEGAS: No questions from me.</p> <p>3 THE VIDEOGRAPHER: Off the record,</p> <p>4 6:26.</p> <p>5 (Deposition concluded at 6:26 p.m.)</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">Page 275</p> <p>1 lengths of sprints. It really depends upon the</p> <p>2 internal team dynamics and how they use the software</p> <p>3 development life cycle. But, in general, a sprint</p> <p>4 is two weeks.</p> <p>5 MS. NAJAM: Object as nonresponsive</p> <p>6 beyond "no."</p> <p>7 Q. I just want to clarify for the record.</p> <p>8 Did you include in either of your reports or your</p> <p>9 declaration your opinion we just heard that it would</p> <p>10 have taken Google just two weeks of work to make the</p> <p>11 change it ultimately did on February 8th?</p> <p>12 MR. HILLEGAS: Objection; form.</p> <p>13 A. I don't make that claim in my report.</p> <p>14 Q. It's a new opinion today, right?</p> <p>15 A. Yes.</p> <p>16 Q. And just to clarify for the record, before</p> <p>17 plaintiffs' counsel came in and asked you a bunch of</p> <p>18 questions -- I don't want to hear the content of</p> <p>19 any conversations -- did y'all meet for roughly 35</p> <p>20 minutes?</p> <p>21 MR. HILLEGAS: You may give the time</p> <p>22 but no other information.</p> <p>23 Q. It was just a yes or no.</p> <p>24 A. Yes.</p> <p>25 MS. NAJAM: All right. Thank you. I</p>	<p style="text-align: right;">Page 277</p> <p>1 DEPOSITION CHANGES</p> <p>2 WITNESS: JACOB HOCHSTETLER</p> <p>3 PAGE NO. LINE NO. CHANGE REASON FOR CHANGE</p> <p>4 _____</p> <p>5 _____</p> <p>6 _____</p> <p>7 _____</p> <p>8 _____</p> <p>9 _____</p> <p>10 _____</p> <p>11 _____</p> <p>12 _____</p> <p>13 _____</p> <p>14 _____</p> <p>15 _____</p> <p>16 _____</p> <p>17 _____</p> <p>18 _____</p> <p>19 _____</p> <p>20 _____</p> <p>21 _____</p> <p>22 _____</p> <p>23 _____</p> <p>24 _____</p> <p>25 Job No. CS7067190</p>

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1		1 Peter Hillegas
2		2 peter.hillegas@nortonrosefulbright.com
3		3 December 17, 2024
4	(Signature of the Witness)	4 RE: State Of Texas, Et Al. v. Google LLC
5		5 12/16/2024, Jacob Hochstetler (#7067190)
6		6 The above-referenced transcript is available for
7		7 review.
8 THE STATE OF _____		8 Within the applicable timeframe, the witness should
9 COUNTY OF _____		9 read the testimony to verify its accuracy. If there are
10		10 any changes, the witness should note those with the
11 Subscribed and sworn to before me by the said		11 reason, on the attached Errata Sheet.
12 witness, JACOB HOCHSTETLER, on this the _____		12 The witness should sign the Acknowledgment of
13 day of _____, 2024.		13 Deponent and Errata and return to the deposing attorney.
14		14 Copies should be sent to all counsel, and to Veritext at
15		15 (erratas-cs@veritext.com).
16 Notary Public in and for the		16 Return completed errata within 30 days from
17 State of _____		17 receipt of testimony.
18 County of _____		18 If the witness fails to do so within the time
19 My commission expires: _____		19 allotted, the transcript may be used as if signed.
20		20
21		21
22		22 Yours,
23		23 Veritext Legal Solutions
24		24
25 Job No. CS7067190		25

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1 STATE OF TEXAS )	
2 COUNTY OF DALLAS )	
3 I, Michelle L. Munroe, Certified Shorthand	
4 Reporter in and for the State of Texas, certify that	
5 the foregoing deposition of JACOB HOCHSTETLER was	
6 reported stenographically by me at the time and place	
7 indicated, said witness having been placed under oath	
8 by me, and that the deposition is a true record of	
9 the testimony given by the witness;	
10 That the amount of time used by each party at	
11 the deposition is as follows:	
12 Ms. Najam - 6 hours, 16 minutes	
13 Mr. Hillegas - 17 minutes	
14 I further certify that I am neither counsel for	
15 nor related to any party in this cause and am not	
16 financially interested in its outcome.	
17 Given under my hand on this the 17th day	
18 of December, 2024.	
19	
20	
21 	
22 MICHELLE L. MUNROE, CSR No. 6011	
23 Commission expires 1-31-26	
24 Firm Registration #571	
25 VERITEXT LEGAL SOLUTIONS	
	300 Throckmorton Street, Suite 1600
	Fort Worth, Texas 76102
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[advice - anticipation]

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[anu - assignment]

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[assist - back]



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[cameras - charge]

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[charlie - chats]

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[chats - coming]

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[coming - confining]

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[confirm - conversations]

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[conversing - counsel]

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[employees - exact]

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[exactly - explain]

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[explain - felt]

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[felt - floor]

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[florida - form]

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[freshman - go]

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**[goal - gotten]**

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[hold - implemented]

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[important - interchanged]


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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.



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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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